

SHARP SERVICE MANUAL

No.S6940MDM3M1//

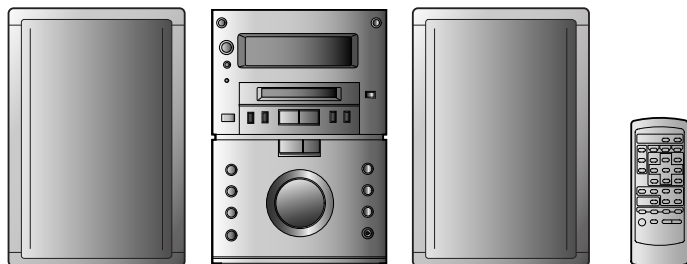


Illustration: MD-M3

MD-M3

MD-M3 MD micro System consisting of MD-M3(main unit) and CP-M3(speaker system).

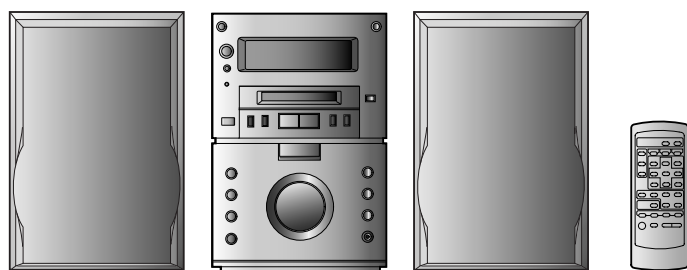


Illustration: MD-M1

MD-M1

MD-M1 MD micro System consisting of MD-M1(main unit) and CP-M1(speaker system).

• In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified should be used.



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FOR A COMPLETE DESCRIPTION OF THE OPERATION OF THIS UNIT, PLEASE REFER TO THE OPERATION MANUAL.

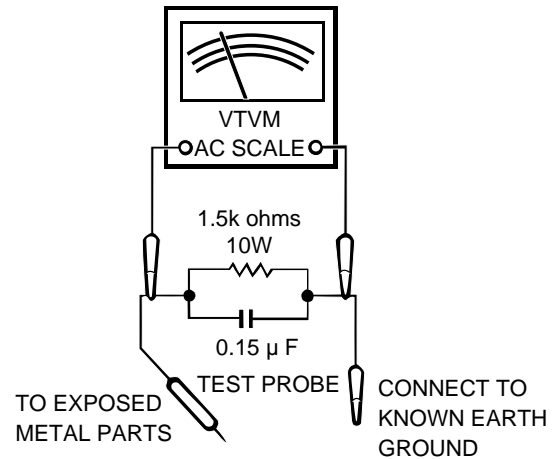
IMPORTANT SERVICE NOTES (For U.S.A.Only)

BEFORE RETURNING THE AUDIO PRODUCT

(Fire & Shock Hazard)

Before returning the audio product to the user, perform the following safety checks.

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the audio product.
2. Inspect all protective devices such as insulating materials, cabinet, terminal board, adjustment and compartment covers or shields, mechanical insulators etc.
3. To be sure that no shock hazard exists, check for leakage current in the following manner.
 - * Plug the AC line cord directly into a 120 volt AC outlet.
 - * Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15 μ F capacitor in series with all exposed metal cabinet parts and a known earth ground, such as conduit or electrical ground connected to earth ground.
 - * Use a VTVM or VOM with 1000 ohm per volt, or higher, sensitivity to measure the AC voltage drop across the resistor (See diagram).
 - * Connect the resistor connection to all exposed metal parts having a return path to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor.



All check must be repeated with the AC line cord plug connection reversed.

Any reading of 0.3 volt RMS (this corresponds to 0.2 milliamp. AC.) or more is excessive and indicates a potential shock hazard which must be corrected before returning the audio product to the owner.

FOR A COMPLETE DESCRIPTION OF THE OPERATION OF THIS UNIT, PLEASE REFER TO THE OPERATION MANUAL.

SPECIFICATIONS

MD-M3/M1

● General

Power source: AC 120 V, 60 Hz

Power

consumption: 60 W

Dimensions:

Width; 6-5/16" (160 mm)
Height; 9-1/2" (240 mm)
Depth; 11-13/16" (300 mm)
Weight: 9.7 lbs. (4.4 kg)

● Amplifier section

Output power: FTC 16 watts per channel minimum RMS into 4 ohms from 80 Hz to 20 kHz with no more than 10% total harmonic distortion

Output terminals: Speaker; 4 ohms
Headphones; 16 - 50 ohms (recommended 32 ohms)

Input terminals: AUX; 500 mV/47 k ohms

● MiniDisc recorder section

Type: MiniDisc recorder

Signal readout: Non-contact, 3-beam semiconductor laser pickup

Rotation speed: 400 - 900 rpm CLV, Approx.

Error correction: ACIRC (Advanced Cross Interleave Reed-Solomon Code)

Quantization: 20-bit linear (A/D converter)

Coding: ATRAC (Adaptive TRansform Acoustic Coding)

Sampling frequency: 44.1 kHz

Recording method: Magnetic modulation overwrite method

Frequency response: 20 - 20,000 Hz

D/A converter: 1-bit D/A converter

Wow and flutter: Unmeasurable (less than 0.001% W. peak)

Signal/noise ratio: 95 dB (1 kHz)

Dynamic range: 90 dB (1 kHz)

Audio channel: Stereo; 2 channels
Monaural; 1 channel (playback only)
(long-time recording mode)

● Compact disc player section

Type: Top open type compact disc player

Signal readout: Non-contact, 3-beam semiconductor laser pickup

Rotation speed: 200 - 500 rpm CLV, Approx.

Error correction: CIRC (Cross Interleave Reed-Solomon Code)

Quantization: 16-bit linear

Frequency response: 20 - 20,000 Hz

D/A converter: 1-bit D/A converter

Signal/noise ratio: 95 dB (1 kHz)

Dynamic range: 90 dB (1 kHz)

Wow and flutter: Unmeasurable (less than 0.001% W. peak)

● Tuner section

Frequency range: FM; 87.5 - 108.0 MHz
AM; 530 - 1,720 kHz

Sensitivity: FM; 2.5 μ V (75 ohms unbalanced)
AM; 650 μ V/m

CP-M3/M1

● Speaker section

Type (MD-M3): 2-way speaker system
4-3/4" (12cm) woofer,
3/4" (2cm) tweeter

Type (MD-M1): Full range speaker system
4" (10cm) full-range speaker

Maximum input power: 40 W

Rated input power: 20 W

Impedance: 4 ohms

Dimensions: (MD-M3) Width; 6-5/16" (160 mm)
Height; 9-1/2" (240 mm)
Depth; 7-7/8" (198 mm)
Weight; 6.8 lbs. (3.1 kg)/each

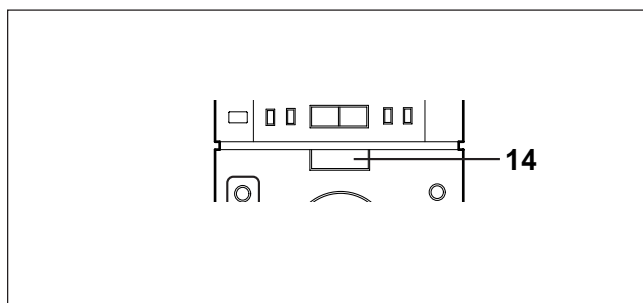
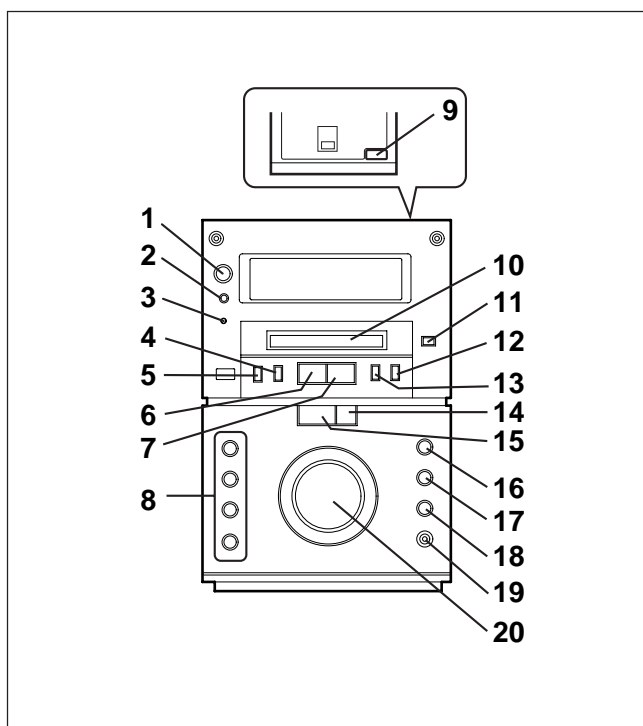
Dimensions: (MD-M1) Width; 6-5/16" (160 mm)
Height; 9-1/2" (240 mm)
Depth; 7-1/4" (183 mm)
Weight; 4.0 lbs. (1.8 kg)/each

Specifications for this model are subject to change without prior notice.

NAMES OF PARTS

■ Front panel

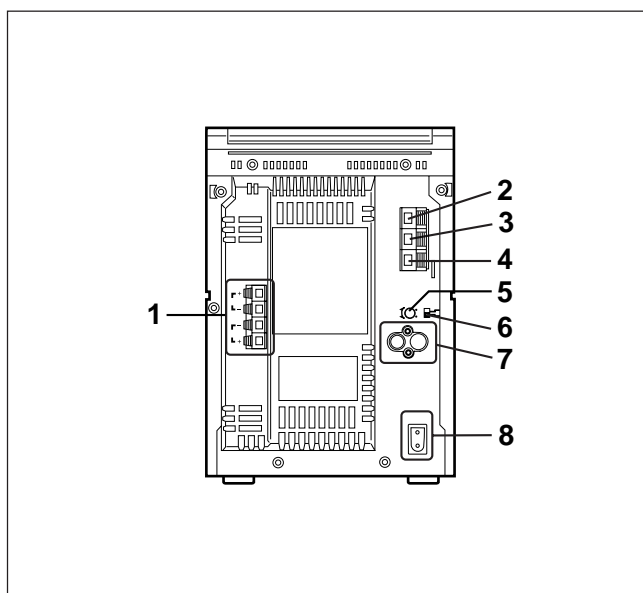
1. Power Button
2. (MD) Display Button
3. Timer Stand-by Indicator
4. (MD) Record Button
5. (CD/MD/TUNER) Memory Button
6. (CD/MD) Stop Button
7. (CD/MD) Play/Pause Button
8. Function Selector Buttons
9. CD Eject Button
10. MD Compartment
11. MD Eject Button
12. (CD/MD) Track Up/Cue Button
13. (CD/MD) Track Down/Review Button
14. CD ► MD Normal Speed Edit Button (MD-M3 ONLY)
14. CD ► MD Edit Button (MD-M1 ONLY)
15. CD ► MD High Speed Edit Button (MD-M3 ONLY)
16. Surround Button
17. Preset Equalizer Button
18. Extra Bass Button
19. Headphone Jack
20. Volume Control



MD-M1

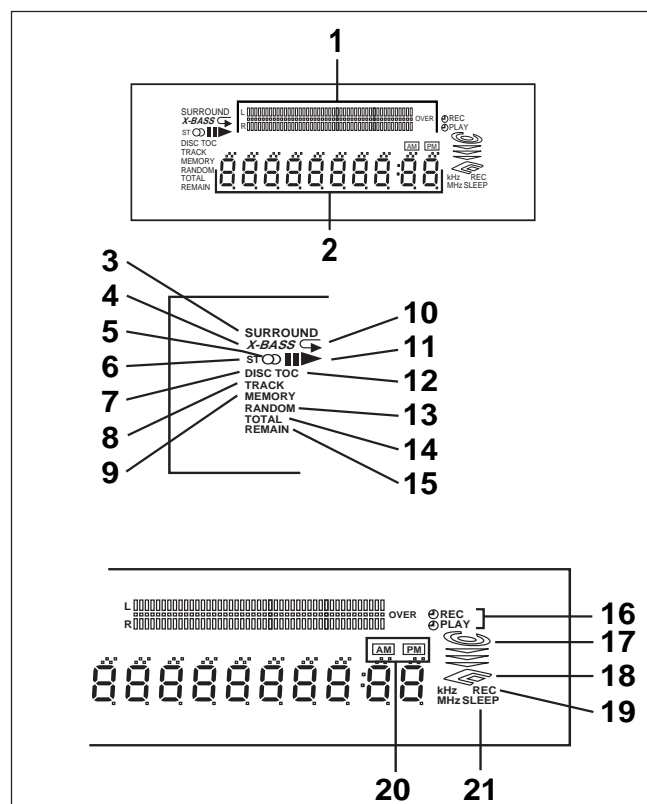
■ Rear panel

1. Speaker Terminals
2. FM 75 Ohms Antenna Terminal
3. Antenna Ground Terminal
4. AM Loop Antenna Terminal
5. Auxiliary Input (Analog) Level Control
6. Demo Switch
7. Auxiliary Input (Analog) Jacks
8. AC Power Input Jack



■ Display window

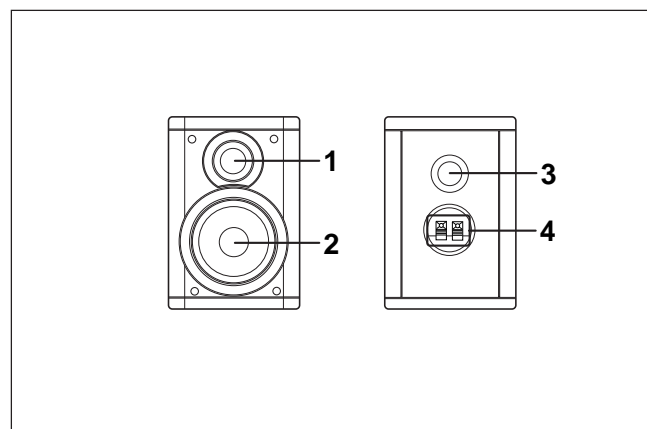
1. Level Meters
2. Character Information Display
3. Surround Indicator
4. Extra Bass Indicator
5. FM Stereo Indicator
6. FM Stereo Mode Indicator
7. (CD/MD) Disc Indicator
8. (CD/MD) Track Indicator
9. (CD/MD/TUNER) Memory Indicator
10. (CD/MD) Repeat Indicator
11. (CD/MD) Play/Pause Indicator
12. (MD) TOC Indicator
13. (CD/MD) Random Play Indicator
14. (CD/MD) Total Indicator
15. (CD/MD) Remaining Time Indicator
16. Timer Record /Timer Play Indicator
17. CD Indicator
18. MD Indicator
19. (MD) Record Indicator
20. AM/PM Indicator
21. Sleep Indicator



CP-M3

■ Speaker section

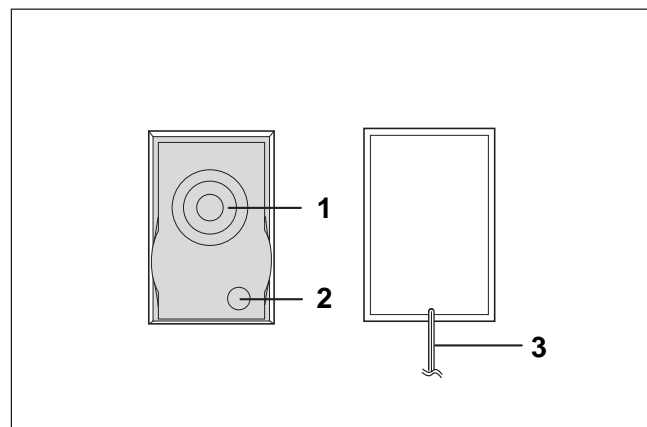
1. Tweeter
2. Woofer
3. Bass Reflex Duct
4. Speaker Terminals



CP-M1

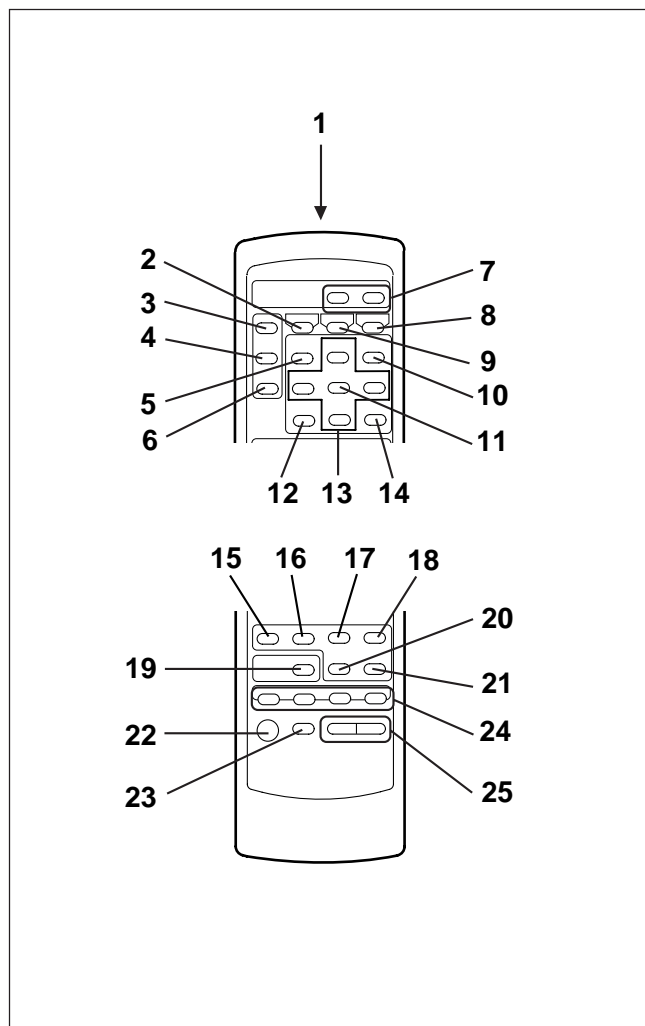
■ Speaker section

1. Full-Range Speaker
2. Bass Reflex Duct
3. Speaker Wire



■ Remote control

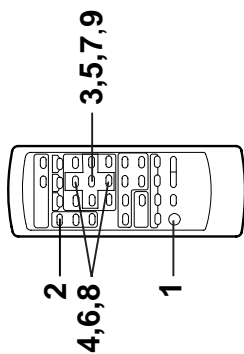
1. Remote Control Transmitter LED
2. Surround Button
3. Clock Button
4. Timer Button
5. Name/TOC Edit Button
6. Sleep Button
7. (TUNER) Preset Up/Down Buttons
8. Extra Bass Button
9. Preset Equalizer Button
10. (MD) Display Button
11. Enter Button
12. Clear Button
13. Character Select Buttons
14. (CD/MD/TUNER) Memory Button
15. (CD/MD) Time Button
16. (CD/MD) Play Mode Button
17. (CD/MD) Track Down/Review Button
18. (CD/MD) Track Up/Cue Button
19. (MD) Record Button
20. (CD/MD) Stop Button
21. (CD/MD) Play/Pause Button
22. Power Button
23. Dimmer Button
24. Function Selector Buttons
25. Volume Buttons



OPERATION MANUAL

SETTING THE CLOCK

In this example, the clock is set for the 24-hour (0:00) system.



1 Press the POWER button to turn the power on.

2 Press the CLOCK button.

CLCKK --:--

3 Within 5 seconds, press the ENTER button.

CLCKK 0:00

4 Press the Δ or ∇ button to select the time display mode.

0:00

"0:00" → The 24-hour display will appear.
(0:00 - 23:59)

"12:00 AM" → The 12-hour display will appear.
(AM or PM 12:00 - 11:59)

"0:00 AM" → The 12-hour display will appear.
(AM or PM 0:00 - 11:59)

● Note that this can only be set when the unit is first installed or it has been reset.

5 Press the ENTER button.

CLCKK 0:00

6 Adjust the hour by pressing the Δ or ∇ button.

CLCKK 1:00

● When the Δ button is pressed once, the time will increase by 1 hour. When the ∇ button is pressed once, the time will decrease by 1 hour.

● When the 12-hour display selected, "[AM]" will change to "[PM]" automatically.

RESETTING THE MICROCOMPUTER

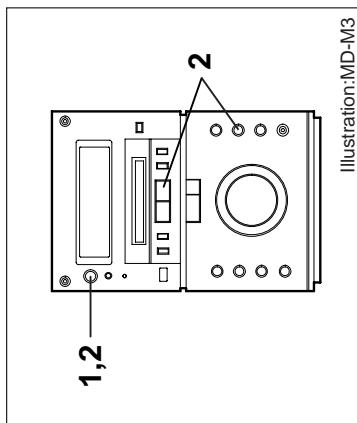


Illustration: MD-M3

If this product is subjected to strong external interference (mechanical shock, excessive static electricity, abnormal supply voltage due to lightning, etc.) or if it is operated incorrectly, it may malfunction or the display may not function correctly. If such a problem occurs, do the following:

1 Press the POWER button to enter the stand-by mode.

2 Press the POWER button while holding down the EQUALIZER button and the PLAY button.

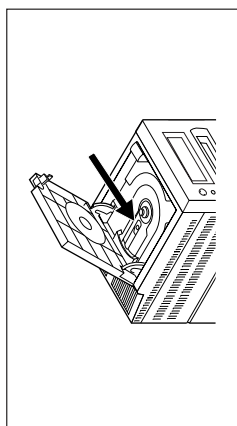
● "ALL CLEAR" will appear.

Caution:

● The operation explained above will erase all data stored in memory including clock and timer settings, and tuner, MD and CD presets.

MAINTENANCE

Internal care

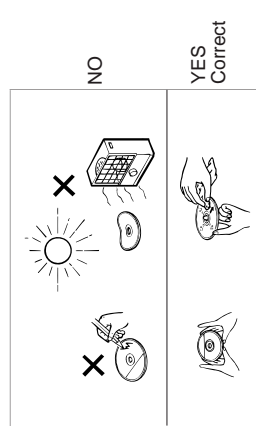


● Do not touch the Laser pickup lens. If fingerprints or dust accumulate on the pickup, clean it gently with a dry cotton swab.

External care

● Periodically wipe the cabinet with a soft cloth and a diluted soap solution, then wipe with a dry cloth.
● Do not use chemically treated cleaning cloths or other chemicals.

Care of compact discs



Compact discs are fairly resistant to damage, however mistracking can occur due to an accumulation of dirt on the disc surface.

Follow the guidelines below for maximum enjoyment from your CD collection and player.

● Do not write on either side of the disc, particularly the non-label side.
Signals are read from the non-label side. Do not mark this surface.

● Keep your discs away from direct sunlight, heat, and excessive moisture.

● Always hold the CDs by the edges. Fingerprints, dirt, or water on the CDs can cause noise or mistracking. If a CD is dirty or does not play properly, clean it with a soft, dry cloth, wiping straight out from the center, along the radius.

TROUBLESHOOTING

■ If a problem occurs

If this unit functions abnormally during operation, first check the following items. If the unit continues to function abnormally, or if an abnormality appears other than listed below, set this unit to the stand-by mode and disconnect the AC power plug, then consult your SHARP dealer or service personnel.

General

Symptom	Possible cause	Remedy
● The clock is wrong.	● Did a power failure occur?	● Try setting it again.
● When a button is pressed, the unit does not respond.	_____	● Set this unit to the stand-by mode and then turn it back on. Then, retry the operation.
● No sound is heard.	● Is the volume level is set to "0"?	● Increase the volume level.
	● Are the headphones connected?	● Disconnect the headphones.
	● Are the speaker wires disconnected?	● Connect the wires securely.
● Radios make unusual noise or the picture on the TV screen is distorted.	● When a radio or TV which uses an indoor antenna is placed near the unit, the picture on the TV screen may be distorted or the radio may not function properly.	● It is recommended that you use an external antenna.

CD Playback

Symptom	Possible cause	Remedy
● Even though a disc has been loaded, "CD NO DISC" or "ERR" is displayed.	● The disc is loaded up-side down.	● Load the disc with the correct side up.
● Playback stops in the middle of a track or playback is not performed properly.	● The disc is very dirty.	● Clean the disc.
● Playback sounds are skipped.	● The disc which does not satisfy the standards.	● Load the correct disc.
	● Is the unit located near excessive vibrations?	● Place the unit on a firm, level surface free from vibration.
	● Has condensation formed inside the unit?	● Remove the disc and leave the power turned on. The unit should function properly in about 1 hour.

MD recording and playback

Symptom	Possible cause	Remedy
● A recording cannot be made.	● Is the MiniDisc protected against accidental erasure?	● Slide the accidental erase prevention tab back to its original position.
	● Did you try to make recording on a play-back only MiniDisc?	● Replace it with a recordable disc.
	● Can you see the "DISC FULL" or "TOC FULL x" message in the display?	● Put in another recordable disc with recording space on it.
	● (x: number or symbol)	● Use another source.
	● The source has been encoded with the SCMS signal (Serial Copy Management System).	
● Even though a disc has been loaded, "MD NO DISC" or "READ ERR" is displayed.	● The disc is very dirty.	● Clean the disc.
● Playback sounds are skipped.	● Is the unit located near excessive vibrations?	● Place the unit on a firm, level surface free from vibration.
	● Has condensation formed inside the unit?	● Remove the disc and leave the power turned on. The unit should function properly in about 1 hour.

Radio reception

Symptom	Possible cause	Remedy
● Radios make unusual noise or sound.	● The unit is placed near the TV or computer.	● When the unit receives a radio broadcast near a TV set, a computer or a word-processor, it may pick up noise. If this happens, try to move the unit from the place where the noise is picked up.
● The preset channel cannot be recalled.	● The antenna direction is not placed properly.	● Correct the antenna direction.
	● Did you erase the programmed station?	● Preset the channel again.
		● Redo programming.

(Continued)

Remote control

Symptom	Possible cause	Remedy
● The remote control does not function or does not operate properly.	● The batteries (polarity) are not inserted properly.	● Insert properly.
	● The batteries inside the remote control are dead.	● Replace the batteries.
	● The remote control is operated from an incorrect distance or angle.	● Operate it within a range of 8' (0.2m) to 20' (6m) and within an angle of 15° to either side of center.
● The power cannot be turned on from the remote control.	● Is the AC power cord plugged in?	● Connect the AC power cord.

ERROR MESSAGES

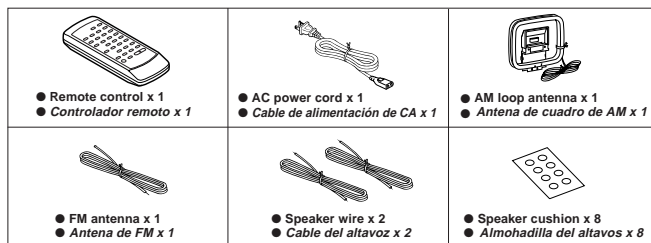
When an error message is displayed, proceed as follows:

Error messages	Meaning	Remedy
BLANK MD	● Nothing is recorded.	● Replace it with another disc.
CAN'T EDIT	● A track cannot be edited.	● Change the stop position of the track and then try editing it.
CAN'T REC	● Recording cannot be performed correctly due to vibration or shock in the unit.	● Re-record or replace the MiniDisc.
	● Timer recording is impossible or there is no available space on the MD.	● Replace it with another disc.
CD NO DISC	● A CD has not been loaded.	● Load a CD.
DISC FULL	● The disc data cannot be read.	● Reload the CD.
	● The disc is out of recording space.	● Replace the disc with another recordable disc.
FOCUS ERR	● A disc has not been loaded.	● Reload the MiniDisc.
	● The disc data cannot be read.	
MD ERR	● Trouble is found.	● Contact the shop where you purchased the unit.
MD NO DISC	● A MiniDisc has not been loaded.	● Load a MiniDisc.
	● The disc data cannot be read.	● Reload the MiniDisc.
MECHA ERR* (*:Number or symbol)	● There is a mechanical problem and the disc is not working properly.	● Set this unit to the stand-by mode and press the MD EJECT button.
NAME FULL	● The number of characters for the disc name or track name exceeds 40.	● Shorten the disc or track name.
NOT AUDIO	● The data recorded on this disc is not audio data.	● Select another track.
	● You tried to record on a playback-only disc.	● Replace the disc.
PLAY MD	● The disc is write protected.	● Replace it with another recordable disc.
PROTECTED	● The disc is write protected.	● Move the write protection tab back to its original position.
READ ERR	● The disc is damaged.	● Reload the disc or replace it.
	● A TOC is not written on the MD or there is something wrong with data.	
TEMP OVER	● The temperature is too high.	● Set this unit to the stand-by mode and wait for a while.
TOC ERR* (*:Number or symbol)	● The disc is damaged.	● Replace it with another disc.
	● TOC information cannot be read.	
	● MD not specified.	
TOC FULL* (*:Number or symbol)	● There is no space left for recording character information (track names, disc names, etc.).	● Replace it with another recordable disc.
TOC W ERR	● Recording is impossible.	● Contact the shop where you purchased the unit.
U TOC ERR* (*:Number or symbol)	● TOC information recorded on the MD does not match the MD specifications or it cannot be read.	● Replace it with another disc.
U TOC ERR W	● The TOC information could not be created properly due to a mechanical shock or to scratches on the disc.	● Erase the disc and try recording again.
? DISC	● The data contains an error.	● Set this unit to the stand-by mode and try to write the TOC again. (Remove any source of shock or vibration while writing.)
00:00	● Music is not being recorded.	● Replace it with another disc.
		● Replace the disc with another recordable disc.

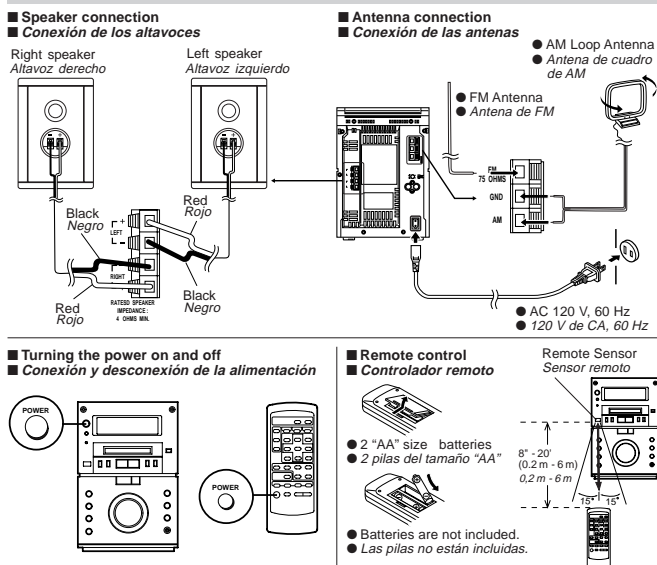
SHARP MD MICRO SYSTEM

Quick Guide/Guía rápida MD-M3

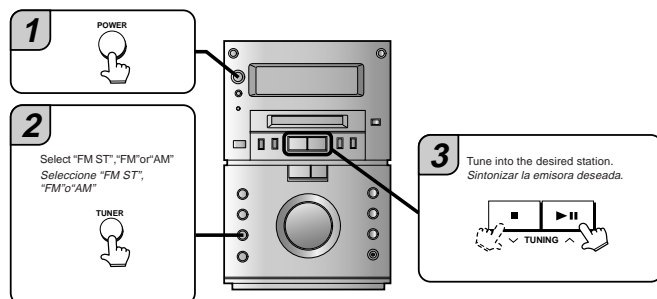
1 Check the supplied accessories / Compruebe los accesorios suministrados



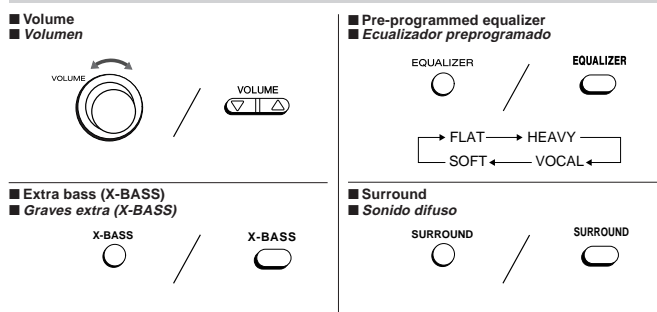
2 Preparation for use / Preparación para su uso



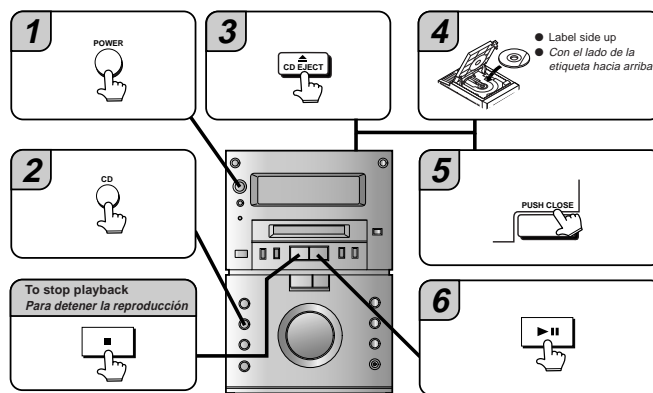
5 Listening to the radio / Audición de la radio



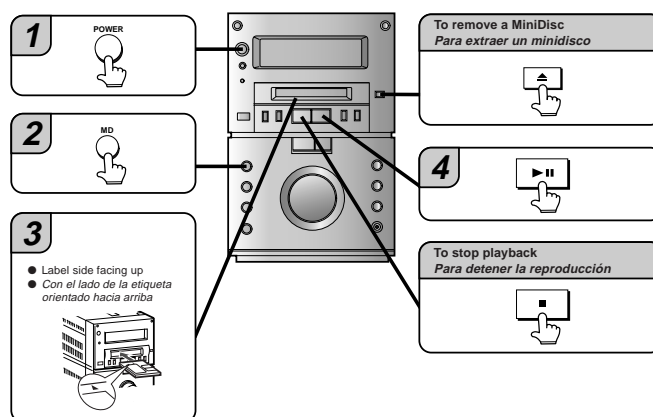
6 Sound control / Control del sonido



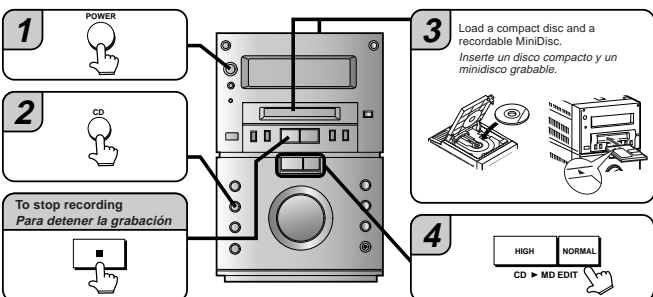
3 Listening to a CD / Audición de discos CD



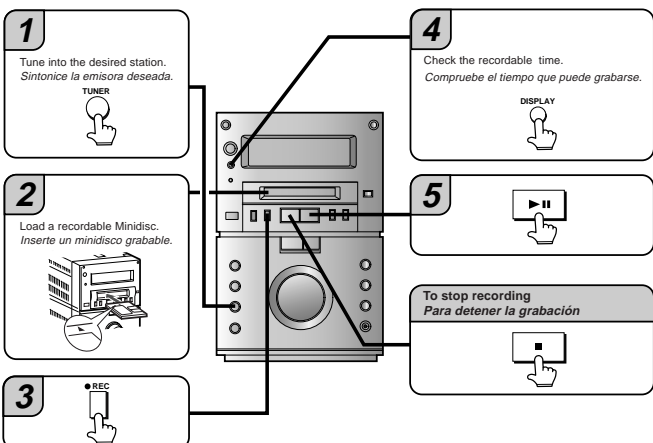
4 Listening to an MD / Audición de discos MD



7 Recording from a CD onto a MiniDisc (One-Touch Editing) / Grabación de un disco CD a un minidisco (edición de un accionamiento)



8 Recording from the built-in radio onto MiniDisc / Grabación desde la radio incorporada a un minidisco

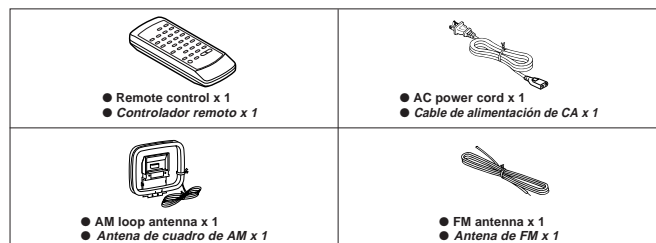


SHARP

MD MICRO SYSTEM

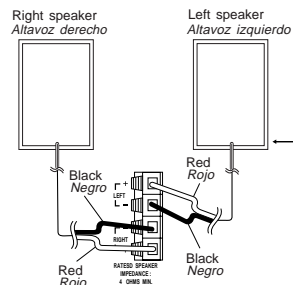
Quick Guide/Guía rápida MD-M1

1 Check the supplied accessories / Compruebe los accesorios suministrados

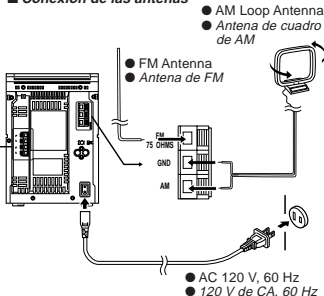


2 Preparation for use / Preparación para su uso

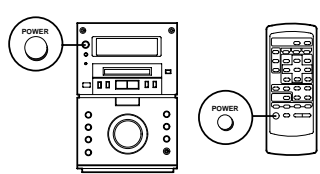
■ Speaker connection ■ Conexión de los altavoces



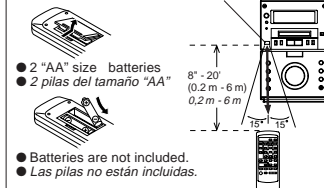
■ Antenna connection ■ Conexión de las antenas



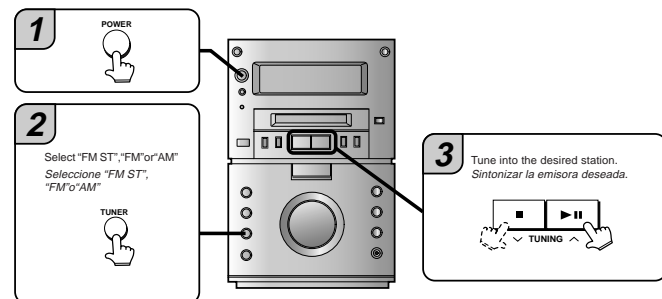
■ Turning the power on and off ■ Conexión y desconexión de la alimentación



■ Remote control ■ Controlador remoto



5 Listening to the radio / Audición de la radio



6 Sound control / Control del sonido

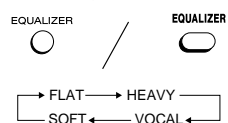
■ Volume ■ Volumen



■ Extra bass (X-BASS) ■ Graves extra (X-BASS)



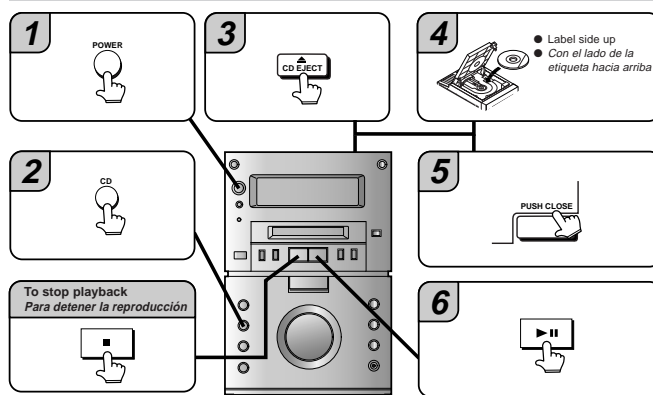
■ Pre-programmed equalizer ■ Ecualizador preprogramado



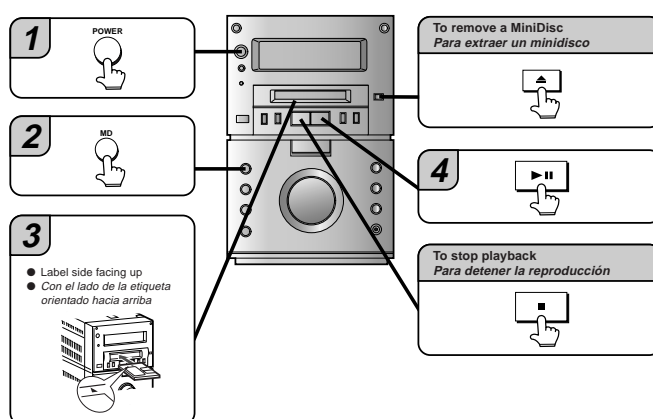
■ Surround ■ Sonido difuso



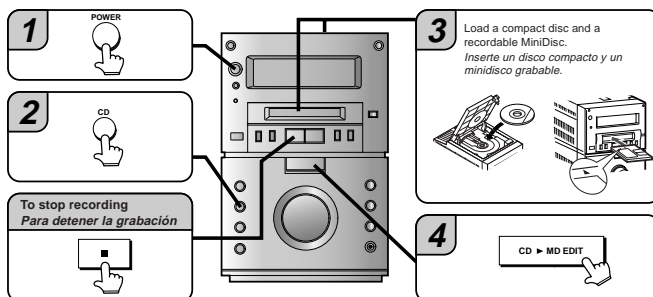
3 Listening to a CD / Audición de discos CD



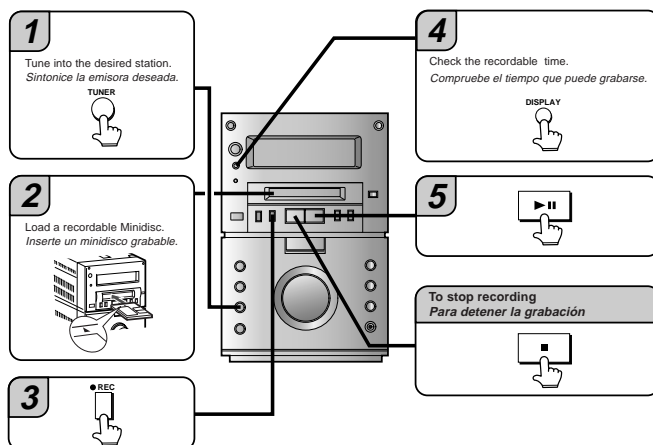
4 Listening to an MD / Audición de discos MD



7 Recording from a CD onto a MiniDisc (One-Touch Editing) / Grabación de un disco CD a un minidisco (edición de un accionamiento)



8 Recording from the built-in radio onto MiniDisc / Grabación desde la radio incorporada a un minidisco



DISASSEMBLY

Caution on Disassembly

The disassembling the machine or assembling it after repair, observe the following instructions to ensure safety and keep its performance.

1. Unload the compact disc, and mini-disc, cassette tape from machine.
2. Be sure to unplug the power cable before starting disassembly of the machine.
3. When disassembling each section, remove the nylon band or wire arrangement.
After servicing the unit, be sure to rearrange the leads where they were before disassembling.
If a screw of improper length is fit to the MD mechanism. (A screw fit the part to the mechanism chassis of MD section), it may contact the optical pickup, impeding normal operation. Hence, due care must be taken.
4. While repairing, pay utmost attention to static electricity on ICs.

MAIN UNIT MD-M3/M1

STEP	REMOVAL	PROCEDURE	FIGURE
1	Top Cabinet	1. Screw (A1) x4 2. Socket (A2) x3	11-1
2	Side Panel (Right,Left) (Note 2)	1. Screw (B1) x7	11-1
3	Rear Panel	1. Screw (C1) x4	11-1
4	Main PWB (Note 2)	1. Flat Wire (D1) x1 2. Lead Wire (D2) x1 3. Screw (D3) x6 4. Socket(MD-M3) (D4) x3 5. Socket(MD-M1) (D4) x2 5. Flat Cable (D5) x4	11-2
5	Power/Tuner PWB	1. Screw (E1) x4 2. Socket (E2) x1 3. Flat Cable (E3) x1	11-3
6	MD Unit and Holder (Note 1,2)	1. Screw (F1) x4 2. Screw (F2) x5	12-1
7	Power PWB	1. Screw (G1) x4	12-1
8	Front Panel	1. Screw (H1) x2	12-1
9	Jack PWB	1. Screw (J1) x1	12-2
10	Display PWB	1. Knob (K1) x1 2. Nut (K2) x1 3. Screw (K3) x5	12-2
11	CD Mechanism	1. Screw (L1) x3	12-3

Note 1: When removing or reinstalling the MD unit, avoid a short circuit by being careful not to allow it to touch the PWB.(Replacement with the PWB installed)

Note 2: After removing the connector for the optical pickup from the connector wrap the conductive aluminium foil around the front end of connector so as to protect the optical pickup from electrostatic damage.

Cares after repairing

After completion of repair of product set the following shipping mode to return.

1. Make sure that there is not a CD and MD disc in the tray.
Press and hold the PRESET EQUALIZER and STOP buttons, and then press the POWER button to enter the TEST mode.
2. After the indication of FINISHED appears, unplug the power cord. If this test mode is executed, the data stored by the user in the preset memory are all cleared. It is necessary tell and obtain the consent of user in advance.

MAIN UNIT

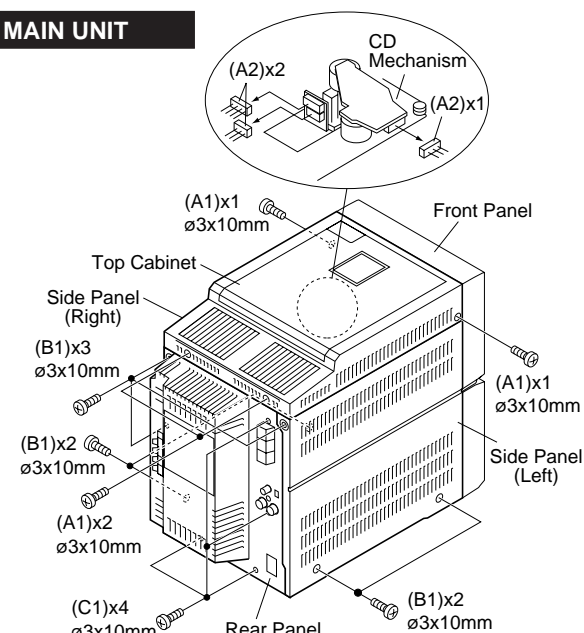


Figure 11-1

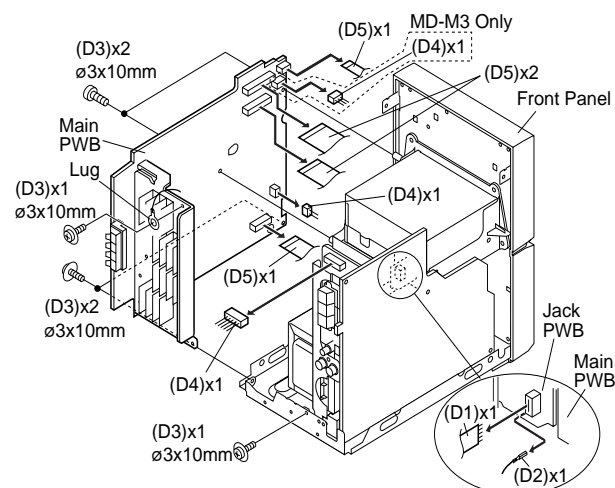


Figure 11-2

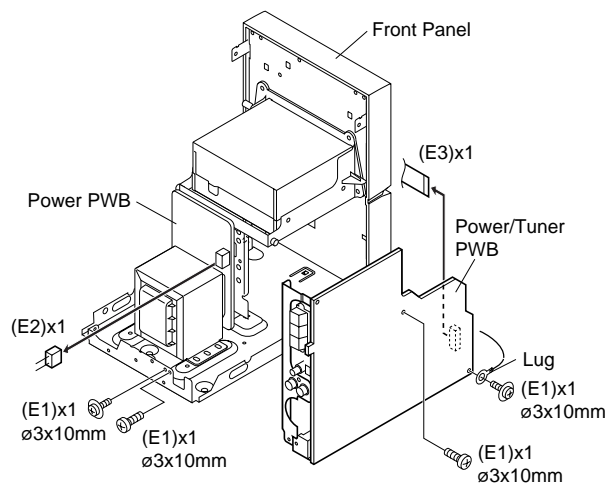


Figure 11-3

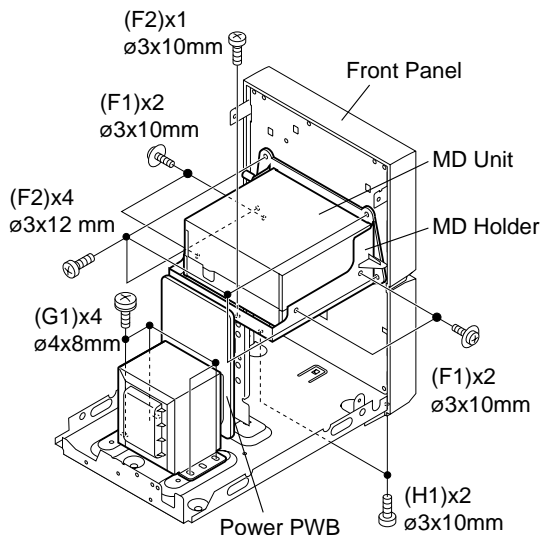


Figure 12-1

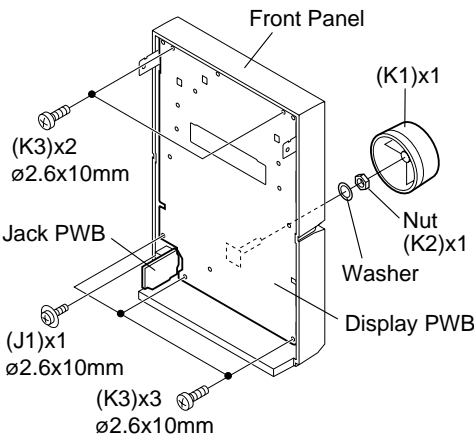


Figure 12-2

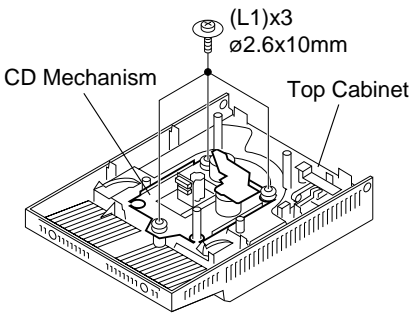


Figure 12-3

SPEAKER CP-M1			
STEP	REMOVAL	PROCEDURE	FIGURE
1	Speaker	1. Net (A1) x1 2. Screw (A2) x4	12-5

SPEAKER CP-M3			
STEP	REMOVAL	PROCEDURE	FIGURE
1	Speaker (Woofer/Tweeter)	1. Net (A1) x1 2. Screw (A2) x4 3. Cover Ring (A3) x1 4. Screw (A4) x4 5. Cover Ring (A5) x1 6. Screw (A6) x2	12-4

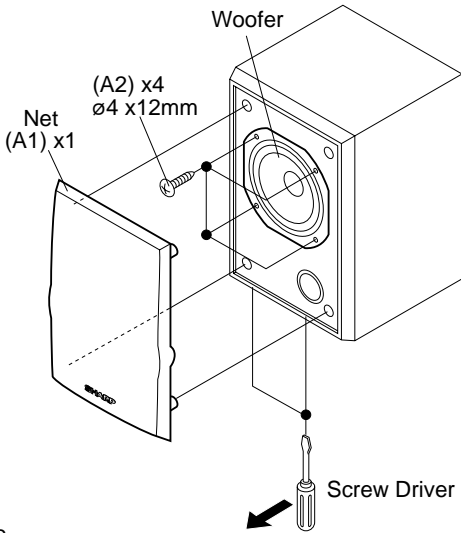


Figure 12-5

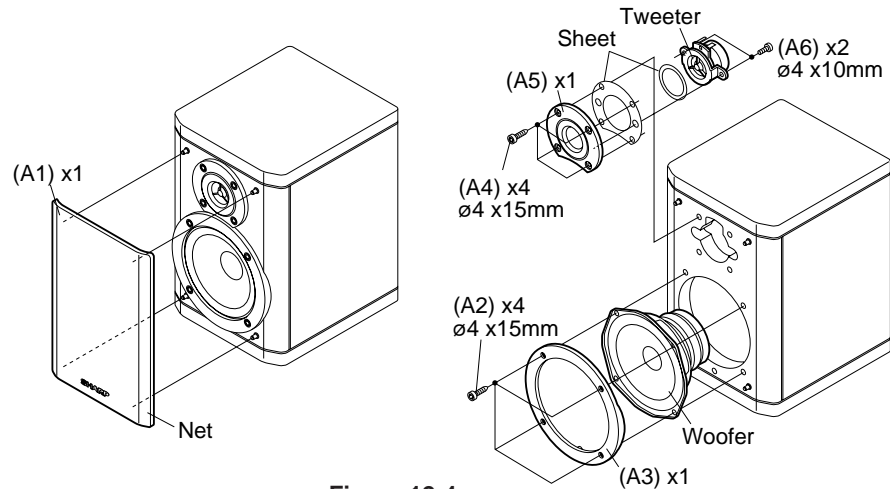


Figure 12-4

REMOVING AND REINSTALLING THE MAIN PARTS

MD MECHANISM SECTION

For details about the procedure to remove the MD mechanism from the main unit, refer to the Disassembly Procedure, Steps 1-6 in the main unit and also the MD section.

(Referring to p.11,12)

Caution:

After pulling out the optical pickup connector, wrap the end of the connector in conductive aluminium foil to prevent the optical pickup from being destroyed by static electricity.

How to remove the magnetic head

(See Fig. 13-1)

1. Remove the screws (A1) x 1 pc.

Caution:

Take utmost care so that the magnetic head is not damaged when it is mounted.

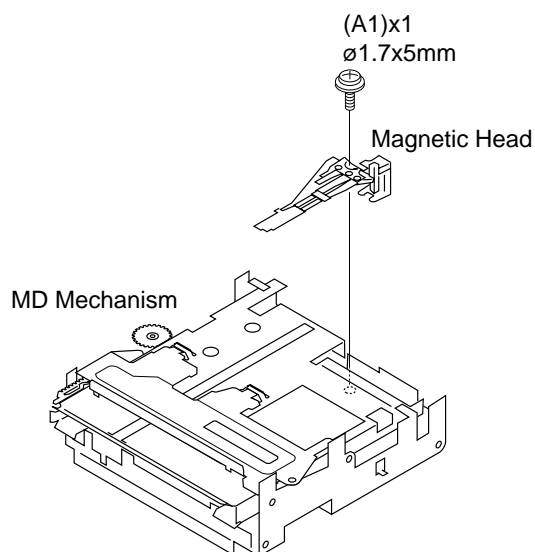


Figure 13-1

How to remove the cartridge holder

(See Fig. 13-2)

1. Open the roller arm lever in the arrow direction, and lower the clamp lever to the rear side.
2. Apply +5V to the red line side of blue connector of loading motor, push the rack gear in the arrow direction to move the cam plate lever unit tick is heard.
3. Remove the screw (B1) x 1 pc., and the spring (B2) x 1 pc., fitted to the holder arm, and shift the cartridge holder to the left side to remove it.

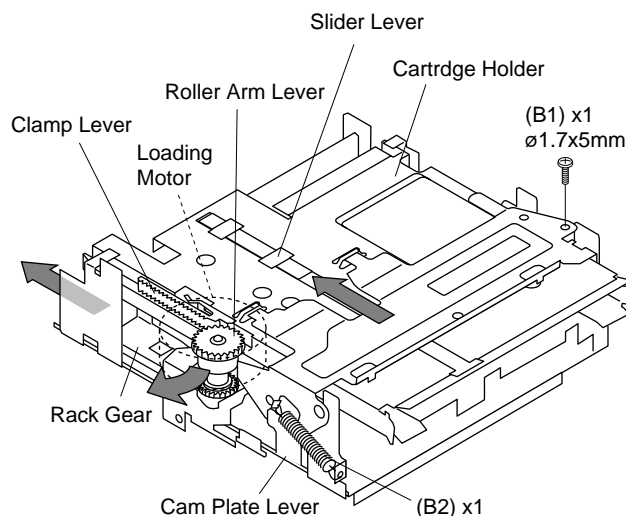


Figure 13-2

How to remove the mechanism switch PWB

(See Fig. 13-3)

1. Remove the screws (C1) x 2 pcs., and remove the mechanism switch PWB.

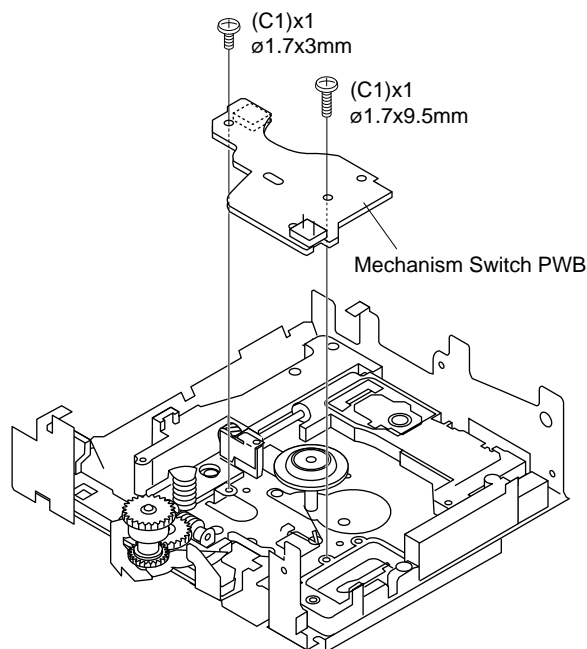


Figure 13-3

How to remove the sled motor/loading motor (See Fig. 14-1)

1. Remove the screws (D1) x 4 pcs., and remove the sled motor/loading motor.

Caution:

Be careful so that the gear is not damaged.
(The damaged gear emits noise during searching.)

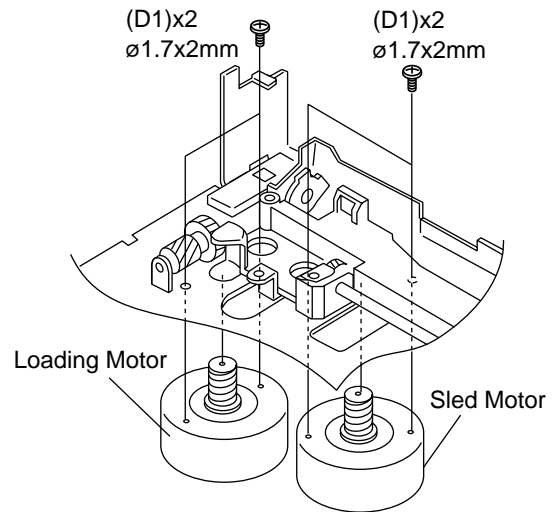


Figure 14-1

How to remove the spindle motor (See Fig. 14-2)

1. Remove the screws (E1) x 2 pcs., (E2) x 1 pc., and remove the spindle motor.

Caution:

Be careful so that the turntable is not damaged.

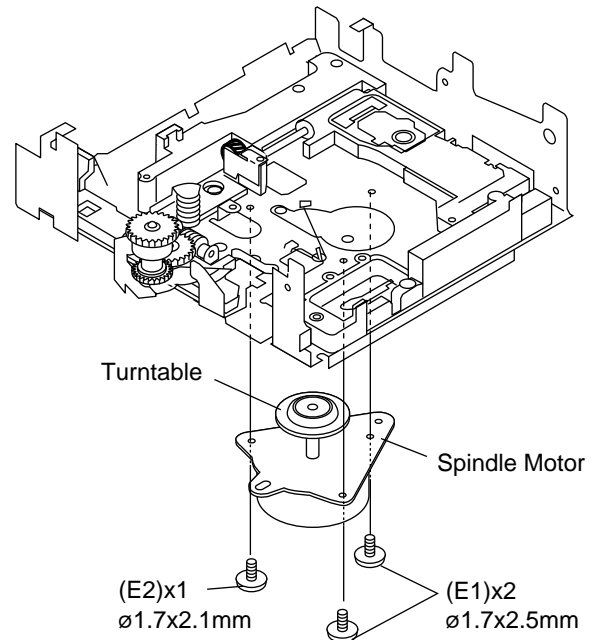


Figure 14-2

How to remove the optical pickup (See Fig. 14-3)

1. Remove the screws (F1) x 3 pcs.

Caution:

Be careful so that the gear is not damaged.
(The damaged gear emits noise during searching.)

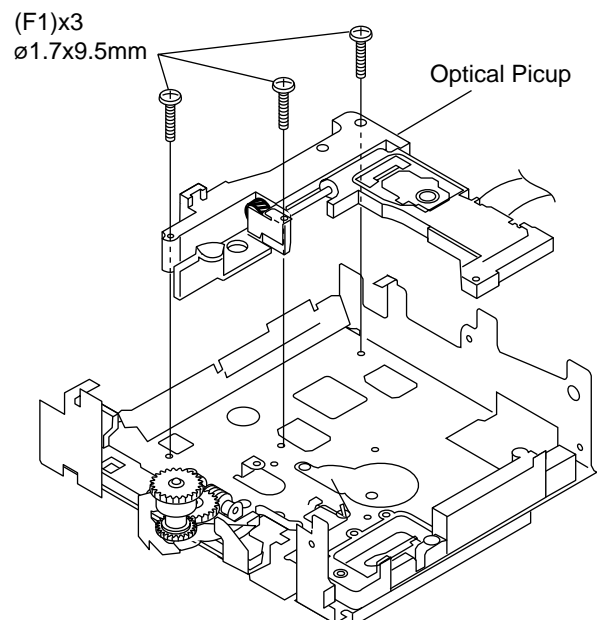


Figure 14-3

CD MECHANISM SECTION

For details about the procedure to remove the CD mechanism from the main unit, refer to Disassembly Procedure, Steps 1, 11 in the main unit and also the CD section. (p.11,12).

How to remove the optical pickup (See Fig. 15-1.)

1. Remove the mechanism cover, paying attention to the pawls (A1)x 4 pcs.
2. Remove the screws (A2)x 2 pcs., to remove shaft (A3) x 1 pc.
3. Remove stop washer (A4)x 1 pc., to remove the gear (A5)x 1 pc.
4. Remove the optical pickup.

Note:

After disconnecting the optical pickup connector wrap the front end of connector in conductive aluminium foil to prevent damage to the optical pickup by static electricity.

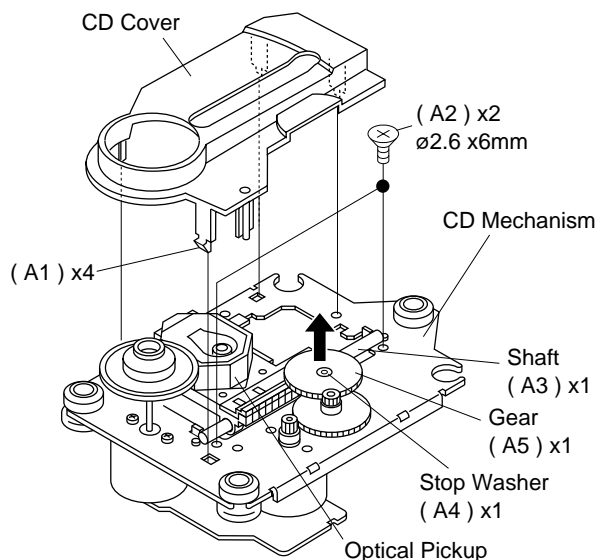


Figure 15-1

TEST MODE

CD SECTION

CD test mode setting

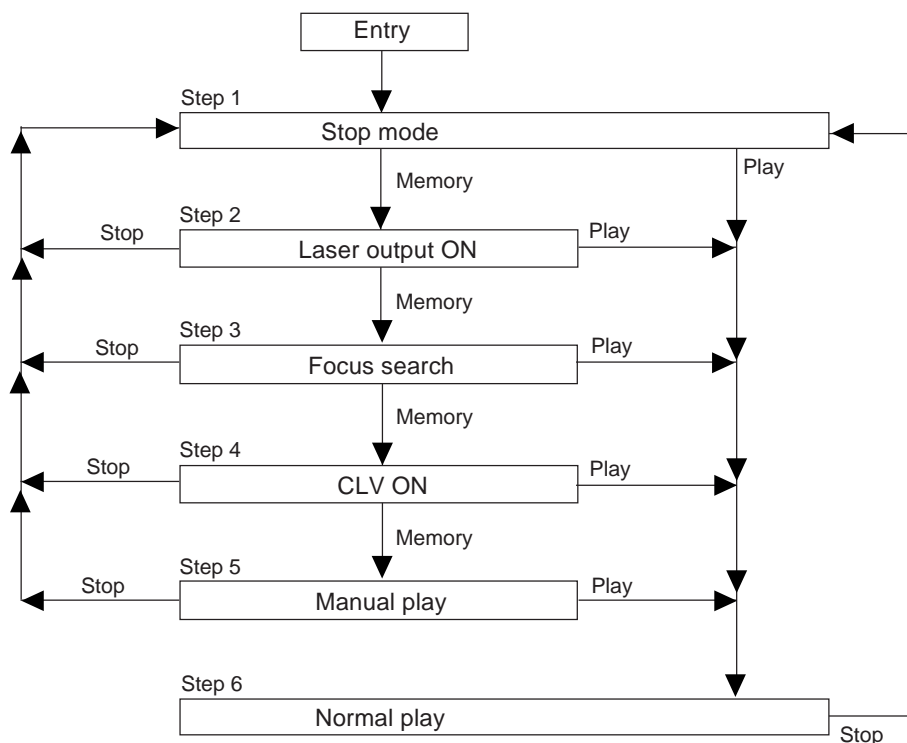
Press and hold the CD and PLAY buttons, and then press the POWER button. -> Normal mode

Press and hold the CD and STOP buttons, and then press the POWER button. -> Hi-speed mode

test mode

- Each step in the operation is only possible when the LID switch is ON in the CD test mode. However, when a focus is not obtained in step 3, or when an error is detected, you cannot go forward.
- When the unit enters the error-handling mode, press the POWER button to end the test mode or press the STOP button so that any further operations are prohibited, except for returning to step 1.
- When the ◀◀ ◀▶ ▶▶ button is pressed in steps 2 - 5, the pickup will be slid.

- Flow chart in the CD test mode or less.

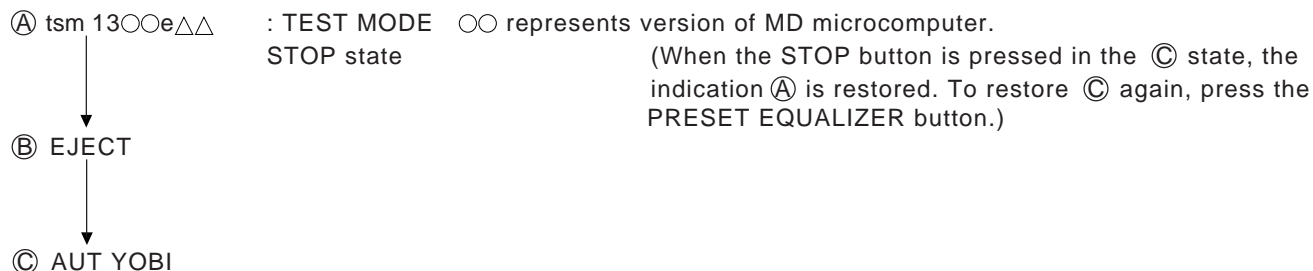


Press the POWER button at any time to cancel the test mode. The unit will return to the normal operation mode in which the power to the unit is turned off.

MD SECTION

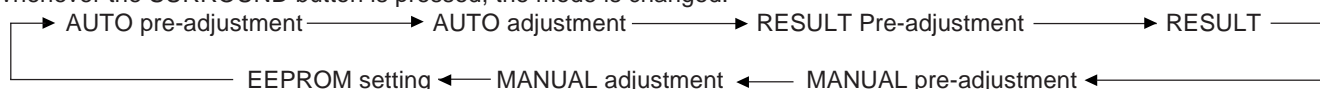
Test mode setting method

1. Holding down the MD FUNCTION button and FF(▶▶ ▶▶|)button, press POWER button switch.
(State ① is changed to state ②.)
2. Insert the playback disc 1 (high reflection disc) or recording disc 2 (low reflection disc).(State ③ is set.)
Thus, the test mode state is set.



Entering the specific mode

Whenever the SURROUND button is pressed, the mode is changed.



Cancel of test mode

To restore the usual state once reset.

*Before pressing the POWER button, be sure to perform the AUTO preliminary adjustment and the AUTO adjustment. Make sure that they return a "COMPLETE" result.

*When the data of EEPROM was changed or the preliminary adjustment was performed again, be sure to press the POWER button to write data in the EEPROM.

(Data is written in the EEPROM by pressing the POWER button.)

*When changing the EEPROM settings, write them into the EEPROM and then enter the test mode again. Perform the AUTO preliminary adjustment and the AUTO adjustment. Then, write those into the EEPROM.

TUNER SECTION

• Test mode setting method

Holding down the TUNER button and PLAY/PAUSE button, turn on POWER button switch. Frequency is set in the memory (initial setting) as shown in Table 16.

Preset No.	Frequency	Preset No.	Frequency
P01	87.50 MHz	P06	522 kHz
P02	108.00 MHz	P07	1,620 kHz
P03	90.00 MHz	P08	603 kHz
P04	106.00 MHz	P09	1,404 kHz
P05	98.00 MHz	P10	990 kHz

Table 16 Initial setting of memory

ADJUSTMENT

TUNER SECTION

fL: Low-range frequency

fH: High-range frequency

• AM adjustment and confirmation

AM signal oscillator Frequency 400 Hz, 30%, AM modulation

Adjusting item	Adjusting object	Adjusting method
IF	Adjust the indication of T351 set to 1,720 kHz.	Set IF waveform 450 kHz to maximum.
Frequency cover (VT line voltage of pin 20 of IC302)	fL: T306 (530 kHz) Adjust the indication of set to 530 kHz. fH: (1,720 kHz)	fL: 1.1 ± 0.1 V fH: 8.0 ± 1.3 V of (Only confirmation)
Tracking	fL: T302 (990 kHz)	Set the output of speaker terminal to maximum.

• FM mute level adjustment

FM signal oscillator Frequency 1 kHz, 40 kHz

Frequency	Adjusting method	Adjusting object	Adjusting object
98 MHz	25 dB	VR351	Input: SO301 Output: Speaker Terminal

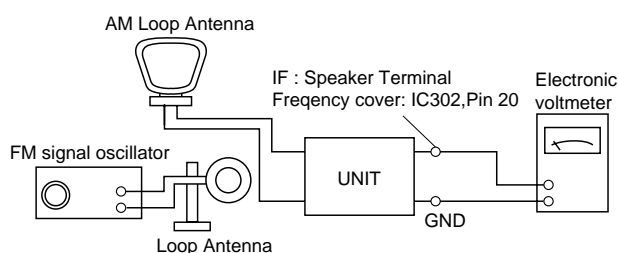


Figure 17-1 AM IF

• Erasing the registered broadcast station

When the power is off, press and hold the TUNER button and the STOP button, and then press the POWER button.

All the registered stations are erased.

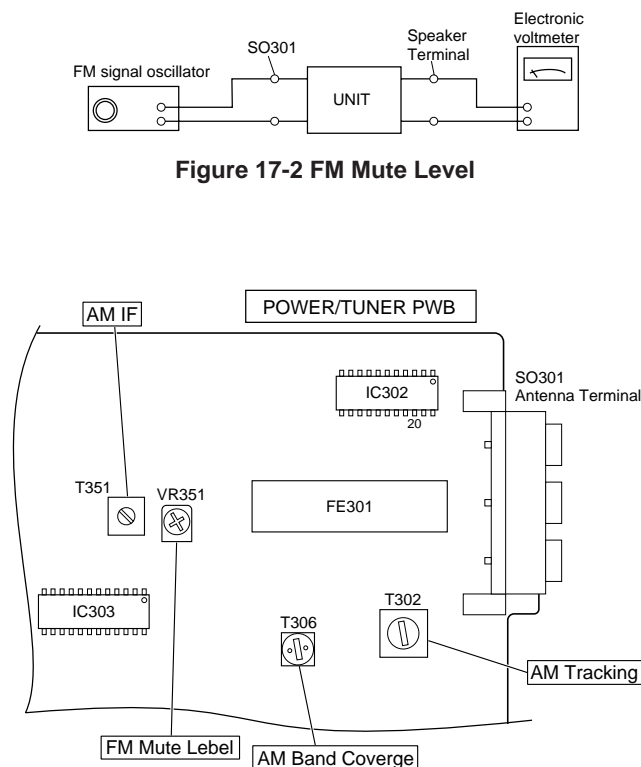


Figure 17-3 ADJUSTMENT POINT

CD SECTION

• Adjustment

Since this CD system incorporates the following automatic adjustment functions, readjustment is not needed when replacing the pickup. Therefore, different PWBs and pickups can be combined freely.

Each time a disc is changed, these adjustments are performed automatically. Therefore, playback of each disc can be performed under optimum conditions.

Items adjusted automatically

- Offset adjustment (The offset voltage between the head amplifier output and the VREF reference voltage is compensated inside the IC.)
 - * Focus offset adjustment
 - * Tracking offset adjustment
- Tracking balance adjustment (waveform drawing 17-4 EFBL)
- Gain adjustment (The gain is compensated inside the IC so that the loop gain at the gain crossover frequency will be 0dB.)
 - * Focus gain adjustment
 - * Tracking gain adjustment

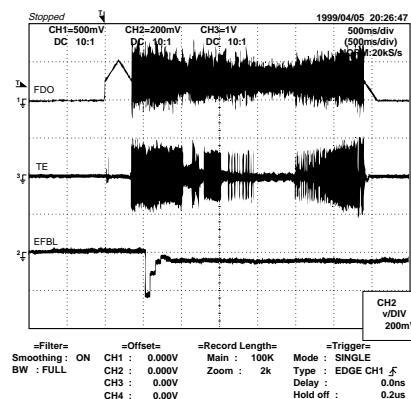


Figure 17-4

MD SECTION

When the combination of mechanism/pickup and PWB was changed, set the TEST mode to perform the AUTO preliminary adjustment and AUTO adjustment, write the adjustment data in EEPROM.

When EEPROM was replaced, set the TEST mode, write the EEPROM set data (p23,p24) and then perform the preliminary adjustment and AUTO adjustment, write adjustment data in EEPROM.

1. Preparation for adjustment Test disc

	Type	Test disc	Part No.
1	High reflection disc	TGYS1 (SONY) [for Playback]	RRCDT0101AFZZ
2	Low reflection disc	Recording minidisc SONY 80 minutes disk is recommended.(example:PRISM 80)	_____
3	_____	Head Adjusting transparent	RRCDT0103AFZZ
4	Low reflection disc	Pre-adjustment disc [TEAC Test MD]	88GMMD-213A

Extension Cable (See Fig. 24)

	Type	Part No.
1	Extension PWB for servicing	RUNTK0457AFZZ
2	Extension Connector (2 Pin)	QCNWK0059AFZZ
3	Extension Connector (6 Pin)	QCNWK0107AFZZ
4	Extension Cable (5 Pin)	QCNWK0109AFZZ
5	Extension Cable (28 Pin)	QCNWK0108AFZZ

Execution item required Repair operations	TEMP basic setting	Checking EEPROM setting	AUTO-YOBI adjustment	Writing the EEPROM setting	Operation check	
	TEMP	EEPROM_SET	AUTO-YOBI		TEST-PLAY	TEST-REC
PICK replacement	—	①	②	③	④	⑤
HEAD replacement	—	—	—	—	—	①
MECHANISM replacement	—	①	②	③	④	⑤
MAIN PWB assembly replacement	①	②	③	④	⑤	⑥
MD microcomputer replacement	—	①	—	②	③	④
MD LSI replacement	—	—	①	②	③	④
RF IC replacement	①	②	③	④	⑤	⑥
EEPROM IC replacement	①	②	③	④	⑤	⑥

number ①,②,③,④,⑤ and ⑥ indicate the order of implementation.

" — " is an item that you don't have to execute.



The EEPROM writing result is shown at the end of the test mode

OK_EEPROM: "SET" and "YOBI COMPLETE" were written normally

WR_EEPROM: Although "SET" was written normally, it was not written in the "YOBI COMPLETE" state.

→ Perform "AUTO-YOBI" adjustment.

After making a normal adjustment, write the preliminary adjustment into the EEPROM.

NG_EEPROM: "SET" could not be written.

→ Check the connection between the MD microcomputer and the EEPROM.

• Test Mode

1. EJECT mode	<ul style="list-style-type: none"> • TEMP setting (of EEPROM setting) • CONTROL setting (of EEPROM setting) • Setting of laser power (record/playback power)
2. AUTO pre-adjustment mode	• Automatic pre-adjustment is performed.
3. AUTO adjustment mode	• Automatic adjustment is performed. (After adjustment the grating adjustment mode is set.)
<ul style="list-style-type: none"> • RESULT sub-mode • RESULT mode (final adjustment) • MANUAL pre-adjustment mode • MANUAL adjustment mode 	• Therefore do not set this mode since it is not necessary for the service.
4. EEPROM setting mode	• Various coefficients of digital servo are changed manually.
5. TEST-PLAY mode	<ul style="list-style-type: none"> • Continuous playback from the specified address is performed. • C1 error rate measurement, ADIP error rate measurement.
6. TEST-REC mode	• Continuous recording from the specified address is performed.
7. INNER mode	• The position where the INNER switch is turned on is measured.

		Above rank 4 bit HEX data							
		0	1	2	3	4	5	6	7
Below rank 4 bit HEX data	0	NUL BLANK 00h	DEL BLANK 10h	SP BLANK 20h	0 30h	@ 40h	P 50h	` 60h	p 70h
	1	SOH BLANK 01h	DC1 BLANK 11h	! 21h	1 31h	A 41h	Q 51h	a 61h	q 71h
	2	STX BLANK 02h	DC2 BLANK 12h	" 22h	2 32h	B 42h	R 52h	b 62h	r 72h
	3	ETX BLANK 03h	DC3 BLANK 13h	# 23h	3 33h	C 43h	S 53h	c 63h	s 73h
	4	EOT BLANK 04h	DC4 BLANK 14h	\$ 24h	4 34h	D 44h	T 54h	d 64h	t 74h
	5	ENQ BLANK 05h	NAK BLANK 15h	% 25h	5 35h	E 45h	U 55h	e 65h	u 75h
	6	ACK BLANK 06h	SYN BLANK 16h	& 26h	6 36h	F 46h	V 56h	f 66h	v 76h
	7	BEL BLANK 07h	ETB BLANK 17h	' 27h	7 37h	G 47h	W 57h	g 67h	w 77h
	8	BS BLANK 08h	CAN BLANK 18h	(28h	8 38h	H 48h	X 58h	h 68h	x 78h
	9	HT BLANK 09h	EM BLANK 19h) 29h	9 39h	I 49h	Y 59h	i 69h	y 79h
	A	LF BLANK 0Ah	SUB BLANK 1Ah	* 2Ah	: 3Ah	J 4Ah	Z 5Ah	j 6Ah	z 7Ah
	B	VT BLANK 0Bh	ESC BLANK 1Bh	+ 2Bh	; 3Bh	K 4Bh	BLANK 5Bh	k 6Bh	BLANK 7Bh
	C	FF BLANK 0Ch	FS BLANK 1Ch	, 2Ch	< 3Ch	L 4Ch	BLANK 5Ch	l 6Ch	BLANK 7Ch
	D	CR BLANK 0Dh	GS BLANK 1Dh	-- 2Dh	= 3Dh	M 4Dh	BLANK 5Dh	m 6Dh	BLANK 7Dh
	E	SO BLANK 0Eh	RS BLANK 1Eh	. 2Eh	> 3Eh	N 4Eh	^ 5Eh	n 6Eh	BLANK 7Eh
	F	SI BLANK 0Fh	US BLANK 1Fh	/ 2Fh	? 3Fh	O 4Fh	— 5Fh	o 6Fh	BLANK 7Fh

Table 19 Character Table for MD Test Mode

1. EJECT mode

Step No.	Setting Method	Remarks	Display *
Step 1	Test mode EJECT state		[_ _ E J E C T _ _ _]
Step 2	Press once the DISPLAY button.	Max. power output state	[X P W _ _ _ _ _]
Step 3	Press once the DISPLAY button.	Playback power output state	[P P W _ _ _ _ _]
Step 4	Press once the DISPLAY button.	Record power output state	[R P W _ _ _ _ _]
Step 5	Press the NORMAL button.	TEMP setting of EEPROM setting	

* Actual indicator character is shown on page 19 . (See Table 19)

Confirmation of pickup laser power

It is possible to confirm in the record/playback mode with the aid of laser power meter. However, since the laser power meter measurement is characterized with dispersion, obtained data are used only for confirmation.

Reference data (at room temperature 25°C)

Playback: 0.72±0.1 mW

Record: 5.5±0.5 mW

Note: Never see directly the laser light. Otherwise your eyes are injured.

2. AUTO pre-adjustment mode (Low reflection disc only)

With the pre-adjustment disc (MMD-318)

Step No.	Setting Method	Remarks	Display *
Step 1	Test mode STOP state		[t s m 1 3 ○ ○ e △ △]
Step 2	Press once the EQUALIZER button.	AUTO pre-adjustment menu	[_ A U T _ Y O B I _]
Step 3	Press the PLAY button. End of adjustment	• During automatic adjustment *** changes as follows. HAo→•••••→LAO If adjustment is OK, Step 4. If adjustment is NG, Step 5.	[*** : _ _ _ _ _]
Step 4	Grating adjustment, adjustment value output Press once the STOP button.	STEP 2 AUTO pre-adjustment menu	[_ C O M P L E T E _]
Step 5	Adjustment value output Press once the STOP button.	STEP 2 AUTO pre-adjustment menu	[C a n ' t _ A D J .]

• *** : Adjustment name

* Actual indicator character is shown on page 19 . (See Table 19)

3. AUTO adjustment mode

Step No.	Setting Method	Remarks	Display *
Step 1	Test mode STOP state	The AUTO preliminary adjustment should have been completed.	[t s m 1 3 ○ ○ e △ △]
Step 2	Press the EQUALIZER button two times.	AUTO adjustment menu	[A U T O _ A J S T _]
Step 3	Press the PLAY button. End of adjustment	The slide moves to the innermost periphery, and automatic adjustment is started. • In case of high reflection disc *** changes as follows. PEG→HAG • In case of low reflection disc *** changes as follows. PEG→LAG→GCG→GEG→LAG If adjustment is OK, Step 4. If adjustment is NG, Step 7.	[*** : _ _ _ _ _]
Step 4	Adjustment value output Press the PLAY button. Press the STOP button.	For grating adjustment STEP 5 STEP 2 AUTO adjustment	[_ C O M P L E T E _]
Step 5	Continuous playback (pit section) Continuous playback (groove section)	Confirmation of CI error	[s □ □ □ c ○ ○ ○ ○] [a □ □ □ c ○ ○ ○ ○]
Step 6	Press the DISPLAY button. Press the STOP button.	Conformation of ADP error STEP 2 AUTO adjustment menu	[a □ □ □ a ○ ○ ○ ○]
Step 7	Adjustment value output Press the STOP button.	STEP 2 AUTO adjustment menu	[C a n ' t _ A D J .]

• *** : Adjustment name, ○ ○ : Measurement value, □ □ □ □ : Address

* Actual indicator character is shown on page 19 . (See Table 19)

4. EEPROM setting mode

Shown in page 23,24.

5. TEST-PLAY mode

(For confirmation of the playback ability at the named address.)

Step No.	Setting Method	Remarks	Display *
Step 1	Test mode STOP state	The AUTO preliminary adjustment should have been completed.	[t s m 1 3 ○○ e △△]
Step 2	Press the NORMAL button.	TEST-PLAY menu	[T E S T _ P L A Y _]
Step 3	Press once the DISPLAY button. Press once the PLAY button.	ADDRESS setting (Target address initial value is indicated)	[A D R E S _ 0 0 5 0]
Step 4	Continuous playback (pit section) Continuous playback (groove section)	(Address + C1 error indication) (Address + C1 error indication)	[s □□□□ c ○○○○] [a □□□□ c ○○○○]
Step 5	Press once the DISPLAY button. Continuous playback (groove section)	(Address + ADIP error indication)	[a □□□□ a ○○○○]
Step 6	Press once the STOP button.	TEST-PLAY menu	[T E S T _ P L A Y _]

* Actual indicator character is shown on page 19 . (See Table 19)

- If the STOP button is pressed while the TEST-PLAY menu is displayed, TEST mode STOP state is set.
- If the PLAY button is pressed while the TEST-PLAY menu is displayed, continuous playback is started from the current pickup position.
- Whenever the NORMAL button is pressed in the address setting mode, the address changes as follows.

0 0 5 0 → 0 3 C 0 → 0 7 0 0 → 0 8 A 0 → 0 0 5 0 →

- Whenever the DISPLAY button is pressed in the address setting mode, the digit which is changed with ◀◀ ◀◀ / ▶▶ ▶▶ changes as follows.

0 0 5 0 → 0 0 5 0 → 0 0 5 0 → 0 0 5 0 →

- The digit of address which has been specified with ◀◀ ◀◀ / ▶▶ ▶▶ button in the address setting mode is set to +01H/-01H.(0~F)

* If the ◀◀ ◀◀ / ▶▶ ▶▶ button is held down, the setting changes continuously with 100 ms cycle.

6. TEST-REC mode

With recording mini disk (For confirmation of the playback ability at the named address.)

Step No.	Setting Method	Remarks	Display *
Step 1	Test mode STOP state	The AUTO preliminary adjustment should have been completed.	[t s m 1 3 ○○ e △△]
Step 2	Press twice the NORMAL button.	TEST-REC menu	[T E S T _ R E C _ _]
Step 3	Press once the DISPLAY button.	ADDRESS setting (indication of address initial value)	[a 0 0 3 2 _ p w △△]
Step 4	Press once the PLAY button.	While searching, set the search output to "H". To start continuous play, return it to "L". Continuous recording	[a □□□□ p w △△]
Step 5	Press once the STOP button.	TEST-REC menu	[T E S T _ R E C _ _]

* Actual indicator character is shown on page 19 . (See Table 19)

- If the STOP button is pressed while the TEST-PLAY menu is displayed, TEST mode STOP state is set.
- If the PLAY button is pressed while the TEST-REC menu is displayed, continuous record is started from the current pickup position.
- Whenever the NORMAL button is pressed in the address setting mode, the address changes as follows.

0 0 5 0 → 0 3 C 0 → 0 7 0 0 → 0 8 A 0 → 0 0 5 0 →

- Whenever the DISPLAY button is pressed in the address setting mode, the digit which is changed with ◀◀ ◀◀ / ▶▶ ▶▶ changes as follows.

0 0 5 0 → 0 0 5 0 → 0 0 5 0 → 0 0 5 0 →

- The digit of address which has been specified with ◀◀ ◀◀ / ▶▶ ▶▶ button in the address setting mode is set to +01H/-01H.(0~F)

* If the ◀◀ ◀◀ / ▶▶ ▶▶ button is held down, the setting changes continuously with 100 ms cycle.

- Be sure to remove since excessive raising results in breakage of the pickup.

7. INNER mode

Step No.	Setting Method	Remarks	Display *
Step 1	Test mode STOP state		[t s m 1 3 ○○ e △△]
Step 2	Press the CD button.	INNER menu	[_ _ I N N E R _ _]
Step 3	Press once the PLAY button.	INNER switch position measurement (SUBQ address and C1 error are also indicated.)	[s □□□□ c ○○○○]
Step 4	Press once the STOP button.	INNER menu	[_ _ I N N E R _ _]

- □□□□ : Address

* Actual indicator character is shown on page 19 . (See Table 19)

MD-M3/M1

● Lead-in switch position measurement mode

Insert High reflection test disk (TGYS1)

Note: Adjust the lead-in switch position to FF85 to FFDF.

1. Loosen the screw (A) x 2 pcs. which fix the mechanism switch PWB.
2. Retighten the screw, pressing the mechanism switch PWB in the arrow direction, and then measure the lead-in switch position again.

After position adjustment fix with the two screws (A). (See Fig. 22-1.)

Note: After tightening the two screws on the PWB apply Screw Lock.

Loosen the
two screws (A).

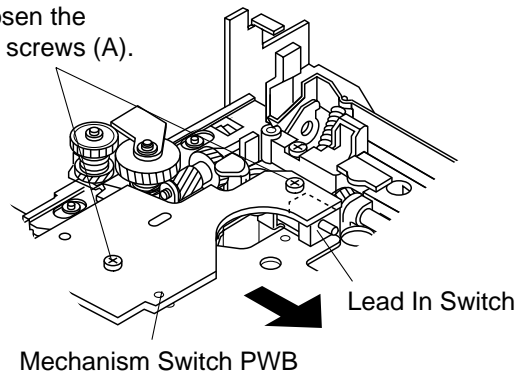


Figure 22-1

● Forced rotation of loading motor

When STOP or EJECT appears in the display and the VOLUME CONTROL knob is rotated (up or down), it allows the loading motor to be forced to run (loading and unloading operations).

● Adjustment of magnetic head mounting position

When the magnetic head and optical pickup have been replaced, be sure to adjust the mounting position.

For easier adjustment of mounting position move the optical pickup to the center position, and then adjust the position.

1. Set the adjusting transparent disc 3.
2. Lower the magnetic head up-shift arm with your finger, and raise the magnetic head.
3. Viewing the set from above, make an adjustment so that the magnetic head aligns with the optical pickup objective lens.
4. Make sure that there is a clearance as shown in Figure 22-2 and the magnetic head moves up and down smoothly.

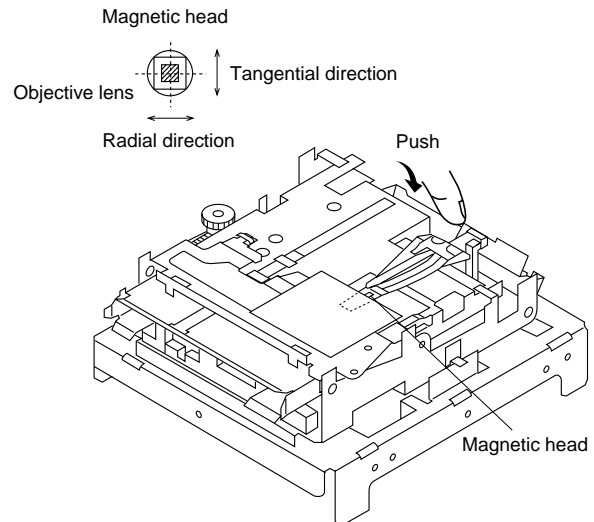


Figure 22-2

● Mechanism Adjustment

1. Optical pickup grating inspecting method

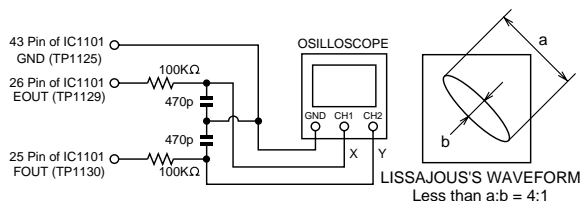


Figure 22-3 Optical Pickup Grating Deviation Measuring Method

After the automatic adjustment has been performed in the AUTO mode (test mode) using the low reflection test disk MMD212 (TEAC) ("COMPLETE" will have been displayed), adjust the Lissajous waveform (x-y) using EOUT and FOUT.

1. Slightly loosen the 3 screws of spindle motor, and make an adjustment, observing the Lissajous's waveform.
2. After the adjustments are complete, tighten the screws in numerical order: ①, ② and then ③. (See Fig. 22-4.)

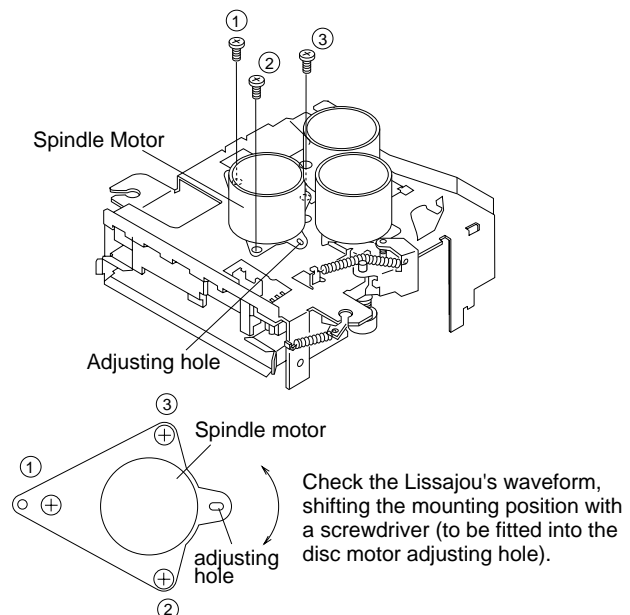


Figure 22-4

EEPROM WRITING PROCEDURE

● EEPROM (IC1402) writing procedure

1. Method for setting the reference temperature value

(This setting should be performed quickly at a room temperature, between 21 °C and 29 °C when the PWB is not hot.)

- (1) When replacing the EEPROM, wait until it has cooled down.
- (2) Connect the main unit using the single MD main PWB.
- (3) Enter the test mode as shown on page 20.
"EJECT"
- (4) Press the NORMAL button.
"TEMP ○○ ◆◆"
○○: Measured temperature, ◆◆: Temperature setting
- (5) Find the temperature correction value for the current ambient temperature on the following table. Adjust the temperature correction value using the jog dial.

Ambient temperature	correction
+ 21.0 °C ~ + 23.2 °C	-1 H
+ 23.3 °C < + 26.8 °C	± 0 H
+ 26.9 °C < + 29.0 °C	+1 H

An example: When ambient temperature is 22°C and measured temperature is 7AH

Temperature setting = 7A H - 01 H
= 79 H

* When the measured temperature fluctuates between two values, take lower one (if temperature fluctuates between 7AH and 79H, take 79H).

- (6) Press the POWER button and write the temperature setting into the EEPROM.

2. Method for making settings other than the reference temperature

- (1) Install the MD main PWB in the mechanism, and connect it to the main unit.
- (2) Enter the test mode as shown on page 20, and insert a disc.
"AUTO YOB!"
- (3) Press the PLAY MODE button six times.
"EEPROM SET"
- (4) Selection mode using the PLAY/PAUSE button.
- (5) Selected using the PRESET EQUALIZER button.
- (6) Determined by the PLAY/PAUSE button.
- (7) Using the jog dial, adjust the settings as shown in the "List of the EEPROM contents".
- (8) Press the POWER button, and the settings will be written into the EEPROM.
- (9) Enter the test mode again, perform an "AUTO YOB!", and write its results into the EEPROM.

EEPROM DATA LIST (Version : 01)

Focus setting

Item indication	Setting
F G ○○	D A H
F F 1 ○○	7 0 H
F F 2 ○○	E 0 H
F Z H L E V ○○	E D H
F O K L E V n ○○	0 8 H
F O K L E V f ○○	0 8 H
F O K L P F n ○○	0 0 H
F O K L P F f ○○	8 8 H
W A I T f ○○	9 0 H

Spin setting

Item indication	Setting
S P G ○○	2 0 H
S P G — i n ○○	B 8 H
S P G — m i d ○○	9 5 H
S P G — o u t ○○	7 9 H
S P 1 ○○	1 0 H
S P 2 ○○	8 7 H
S P 3 ○○	E 3 H
S P 4 ○○	E 3 H
S P 5 ○○	1 0 H
S P D L I M ○○	7 F H

Tracking setting

Item indication	Setting
T G ○○	6 B H
T F 1 ○○	6 B H
T F 2 ○○	E 0 H
S V C N T 4 ○○	0 0 H
T R B L V o ○○	5 0 H
T R B L V t ○○	5 4 H
T R K L V o ○○	5 0 H
T R K L V t ○○	2 E H
T D P W o ○○	8 9 H
T D P W t ○○	1 A H
S L C T o ○○	0 0 H
S L C T t ○○	4 0 H
S L C T m ○○	5 3 H
T C R S C I P ○○	1 6 H
C O T L V P ○○	0 A H
C O T L V r ○○	1 C H
W A I T m ○○	F F H

MD-M3/M1

Slide setting

Item indication	Setting
SLG ○○	3BH
SL2 ○○	18H
SLDLIM ○○	7FH
SLDLEV ○○	12H
SLKLVk ○○	50H
SLKLVt ○○	3AH
SLKLVm ○○	4CH

ADJUST setting

Item indication	Setting
COK ○○	A0H
FAT ○○	C0H
TAT ○○	3EH
CAT ○○	20H
FAB ○○	64H
STR ○○	0AH
SFS ○○	0DH
STC ○○	0DH

Control setting

Item indication	Setting
CONTRL1 ○○	80H
CONTRL2 ○○	02H
SPKLEVm ○○	26H
ADJTMM ○○	14H
HDEQAD ○○	92H
LDEQAD ○○	8FH
GDEQAD ○○	8DH
HDEQBC ○○	8CH
LDEQBC ○○	8FH
GDEQBC ○○	8DH
HALSG ○○	21H
LALSG ○○	21H
GALSG ○○	11H
HALSOFs ○○	FEH
LALSOFs ○○	00H
GALSOFs ○○	00H

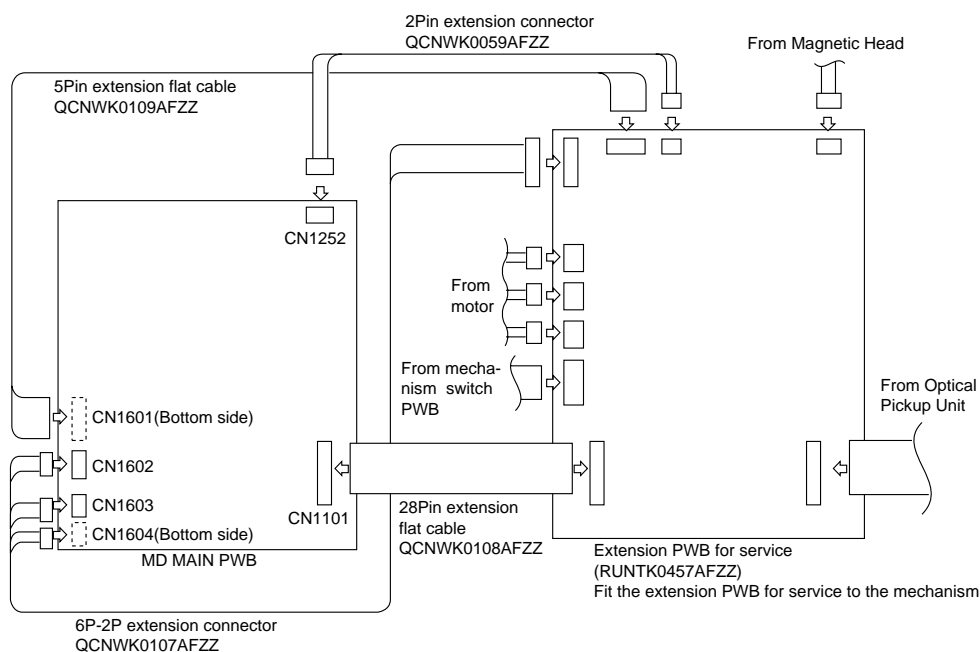


Figure 24

EXPLANATION OF MECHANISM ERROR

Error display	Errors
MECHA _ * _ ERR	None of the operations is completed properly.

- HINF (IC1401 97 PIN)
- * = E Ejection completion position < 1.3 V
 - * = M Horizontal midway position > 3.06 V
 - * = L Load completed position 1.853~2.48 V
 - * = D Head-down position 1.3~1.853 V

EXPLANATION OF ERROR DISPLAY

Error display	Errors	Corrective action
Can't REC	<ul style="list-style-type: none"> Defect occurred successively 10 times during REC-PLAY. As a result of occurrence of defect during REC-PLAY the recordable cluster became zero. Address is unreadable. REC state cannot be set for 20 seconds although retry is repeated. 	<ul style="list-style-type: none"> Check that the disc is free from flaw, dust and fingerprint. Check whether there is any black spot. Check for disc disalignment and run-out.
Can't COPY	<ul style="list-style-type: none"> The following judgement is made according to the channel status of digital signal which was input from D-IN during REC-PAUSE or REC-PLAY. <ol style="list-style-type: none"> (1) Other than audio signal (2) Other than signals of home-use appliances (3) Copy NG due to inversion of copy bit in CD. 	<ul style="list-style-type: none"> Check whether CD is copy-inhibited one. (An example: CD-R)
TOC FULL	<ul style="list-style-type: none"> There were no areas to record music or character information. (music name, disc name, etc.) during REC-PLAY. 	<ul style="list-style-type: none"> Replace the disc with a recording/ playback disc in which an area to register UTOC remains.
UTOC R ERR	<ul style="list-style-type: none"> FTNO > LTNO FTNO ≠ 0 or 1 UTOC recorded on disc could not be read. 	<ul style="list-style-type: none"> UTOC data is not normal. Replace the disc with other disc.
UTOC A ERR	<ul style="list-style-type: none"> Start address > End address 	<ul style="list-style-type: none"> UTOC data is not normal. Replace the disc with other disc.
UTOC L0~4 ERR	<ul style="list-style-type: none"> Any data of UTOC 0 to 4 looped. 	<ul style="list-style-type: none"> UTOC data is not normal. Replace the disc with other disc.
NOT AUDIO	<ul style="list-style-type: none"> Nonaudio data was recorded in the track mode of currently selected TNO. 	<ul style="list-style-type: none"> Select other TNO or replace the disc with other disc.
? DISC	<ul style="list-style-type: none"> Data "MINI" of system ID which has been written in TOC with ASCII code is not correct. The disc type written in TOC does not correspond to pre/mastered MD, recording MD and hybrid MD. 	<ul style="list-style-type: none"> The loaded disc is not applicable. Replace the disc, and check.
DISC FULL	<ul style="list-style-type: none"> When an attempt to set REC-PAUSE was made, there were no recordable areas. 	<ul style="list-style-type: none"> Replace the disc with other recording disc in which recording area remains.
PLAY MD	<ul style="list-style-type: none"> An attempt to set REC-PAUSE or to start editing was made on the playback-only disc. 	<ul style="list-style-type: none"> The loaded disc is a playback-only disc. Replace the disc with a recording disc.
PROTECTED	<ul style="list-style-type: none"> An attempt to record or edit was made on the record/playback disc with its careless erase preventing tab being in erase preventing state. An attempt was made to edit the track which was write-protected by information written in UTOC. It is indicated when a tape is faulty operation prevention condition. (tabs breaks.) 	<ul style="list-style-type: none"> Return the careless erase preventing tab to its initial position, and redo. The track on which an attempt to edit was made is a write-protected track. Redo on another track. Cover the accidental erase prevention holes with adhesive tape.
Can't EDIT	<ul style="list-style-type: none"> Specific editing conditions were not satisfied. Cover the write-protect hole with a piece of cellophane tape. 	<ul style="list-style-type: none"> The applied operation procedure is not proper. Redo, applying the correct procedure.
TEMP OVER	<ul style="list-style-type: none"> Owing to occurrence of some trouble internal temperature of set (MD unit) rose excessively. 	<ul style="list-style-type: none"> Check by troubleshooting. Check whether the ambient temperature is too high.
MD RD ERR MD PA ERR MD WR ERR	<ul style="list-style-type: none"> Read data was not correct or data could not be read correctly. Trouble occurred during recording if music data, resulting in record failure. 	<ul style="list-style-type: none"> Data of TOC or UTOC is not normal or disc has flaw. Replace the disc with other disc.
TOC S ERR TOC R ERR TOC T ERR	<ul style="list-style-type: none"> TOC was read but data was not correct. TOC could not be read. 	<ul style="list-style-type: none"> The TOC information recorded on disc does not conform to the MD standard. Replace the disc with other disc. The disc has flaw. Replace the disc with other disc.
UTOC W ERR	<ul style="list-style-type: none"> Trouble occurred during rewriting of UTOC, resulting in UTOC rewriting failure. 	<ul style="list-style-type: none"> The disc has flaw. Replace the disc with other disc.
FOCUS ERR	<ul style="list-style-type: none"> After the disc was loaded, focusing failure occurred. 	<ul style="list-style-type: none"> Check that the disc is free from flaw, dust, fingerprint and black spot. Check for disc disalignment and run-out.
BLANK MD	<ul style="list-style-type: none"> UTOC was read but total TNO and the number of characters of NAME was 0? 	<ul style="list-style-type: none"> Perform recording to check that the disc is recordable disc.
TOC W ERR	<ul style="list-style-type: none"> Although UTOC can be read but UTOC cannot be rewritten. 	<ul style="list-style-type: none"> Check that the record head contact is normal. Check that there is no broken wire between PWB and the recording head.
MD ERR	<ul style="list-style-type: none"> Data of EEPROM is not correct. 	<ul style="list-style-type: none"> Perform adjustment Once reset, and redo. If error occurs persistently, replace EEPROM.

NOTES ON SCHEMATIC DIAGRAM

- Resistor:

To differentiate the units of resistors, such symbol as K and M are used: the symbol K means 1000 ohm and the symbol M means 1000 kohm and the resistor without any symbol is ohm-type resistor. Besides, the one with "Fusible" is a fuse type.

- Capacitor:

To indicate the unit of capacitor, a symbol P is used: this symbol P means micro-micro-farad and the unit of the capacitor without such a symbol is microfarad. As to electrolytic capacitor, the expression "capacitance/withstand voltage" is used.

(CH), (TH), (RH), (UJ): Temperature compensation

(ML): Mylar type

(P.P.): Polypropylene type

- Schematic diagram and Wiring Side of P.W.Board for this model are subject to change for improvement without prior notice.

- The indicated voltage in each section is the one measured by Digital Multimeter between such a section and the chassis with no signal given.

1. In the tuner section,

() indicates AM

< > indicates FM stereo

2. In the CD section, the CD is stopped.

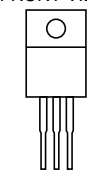
- Parts marked with "△" (□ = □) are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

REF.NO.	DESCRIPTION	POSITION
SW1	CD Lid	OFF
SW2	Pickup In	OFF
SW1952	Dirrect	OFF
SW1953	Lead In	OFF
SW1954	Play	OFF
SW1955	Rec	OFF
SW1956	Loading	OFF
SWD01	POWER	OFF
SWD02	DISPLAY	OFF
SWD08	MD EJECT	OFF
SWD10	SURROUND	OFF
SWD11	EQUALIZER	OFF
SWD12	X-BASS	OFF
SWD13	AUX	OFF

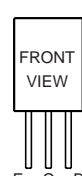
REF.NO.	DESCRIPTION	POSITION
SWD14	TUNER	OFF
SWD15	CD	OFF
SWD16	MD	OFF
SWD19	FF	OFF
SWD20	REV	OFF
SWD21	PLAY	OFF
SWD22	STOP	OFF
SWD23	HIGH (MD-M3 ONLY)	OFF
SWD24	NORMAL (MD-M3 ONLY)	OFF
SWD24	CD►MD EDIT (MD-M1 ONLY)	OFF
SWD25	REC	OFF
SWD26	MEMORY	OFF
SWD28	VOLUME	OFF
SWR11	DEMO	OFF

TYPE OF TRANSISTOR AND LED

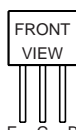
(FRONT VIEW)



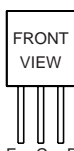
2SB1375
2SD2012



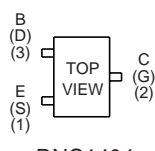
KTA1023 Y



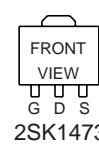
HSC1815 GR
KRA107 M
KRC104 M
KRC107 M
KTC3199 GR



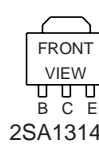
HSA1015 GR
KTA1266 GR
KTA1270 Y
KTA1271 Y
KTC3203 Y
2SC2878 A
2SC380 O



RNC1404
RN1406
RN2404
RNC1407
2SA1162 G
2SC2412 KR
2SK2909



2SK1473



2SA1314 C

TOP VIEW

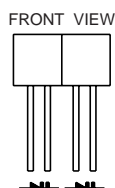


SB0209CP

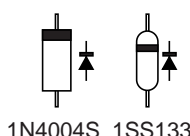
TOP VIEW



SB007-03Q



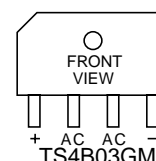
KV1236Z23F



1N4004S 1SS133



SLI342UCB



TS4B03GM

Figure 26 TYPES OF TRANSISTOR/DIODE AND LED

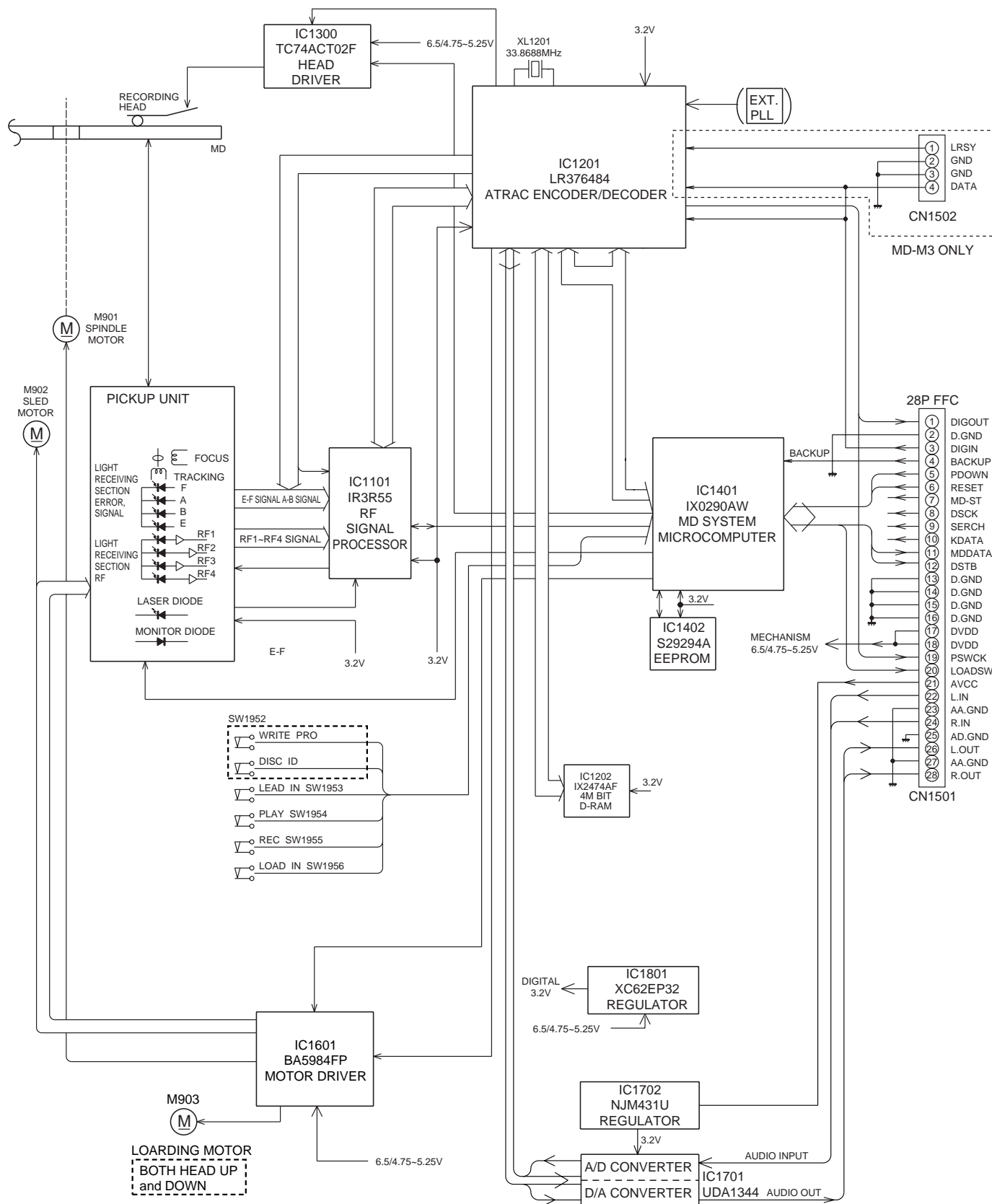


Figure 27 BLOCK DIAGRAM (1/5)

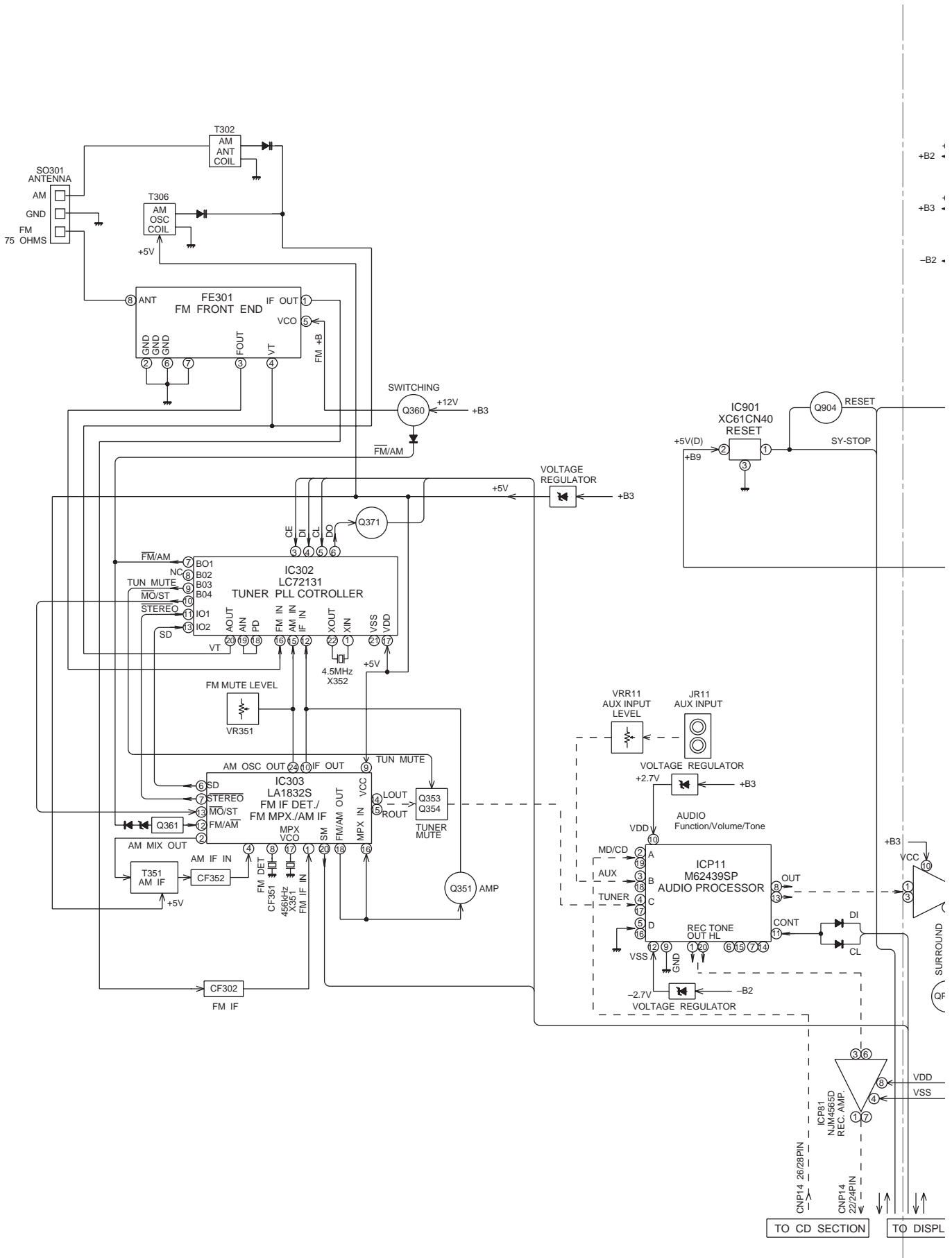


Figure 28 BLOCK DIAGRAM (2/5)

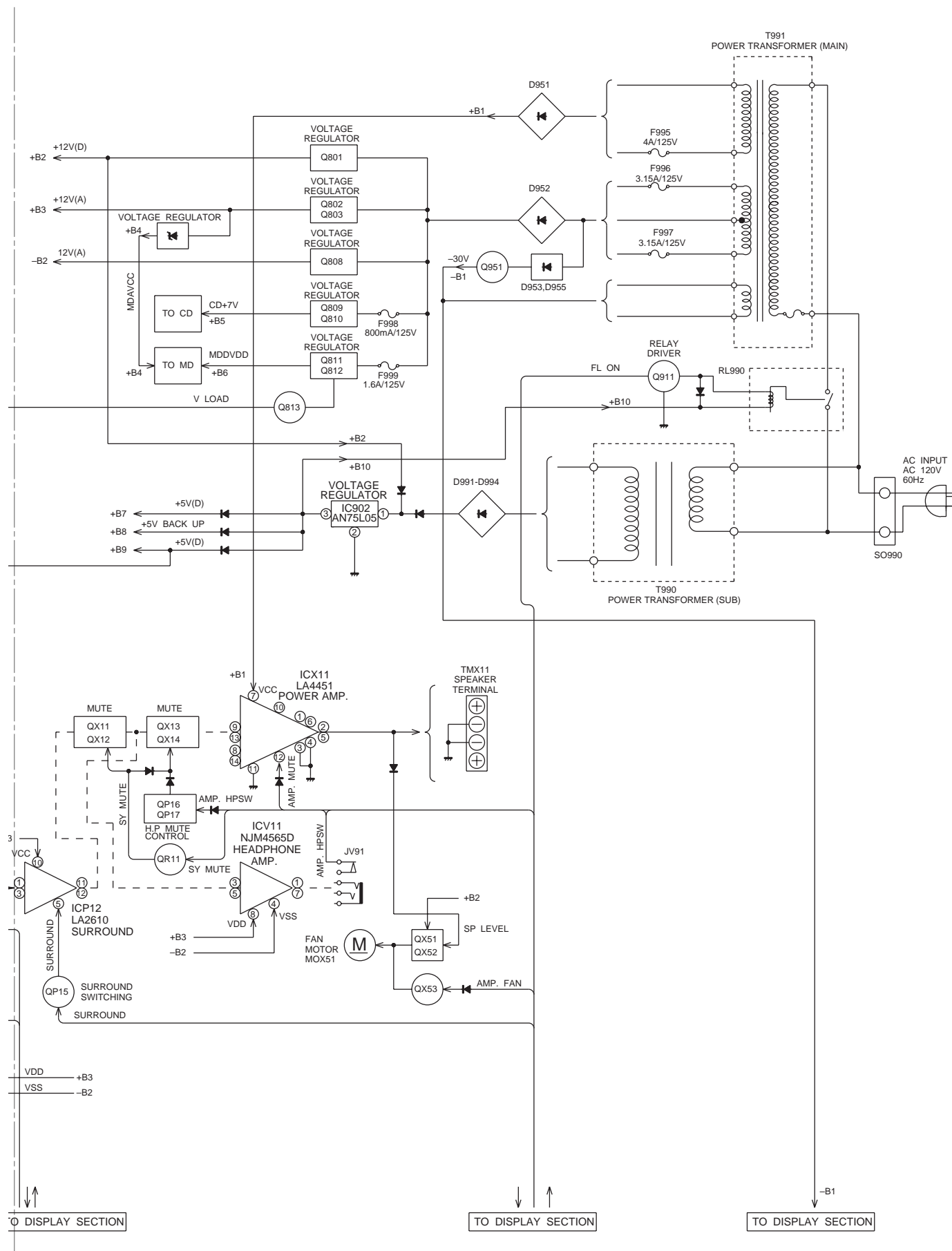


Figure 29 BLOCK DIAGRAM (3/5)

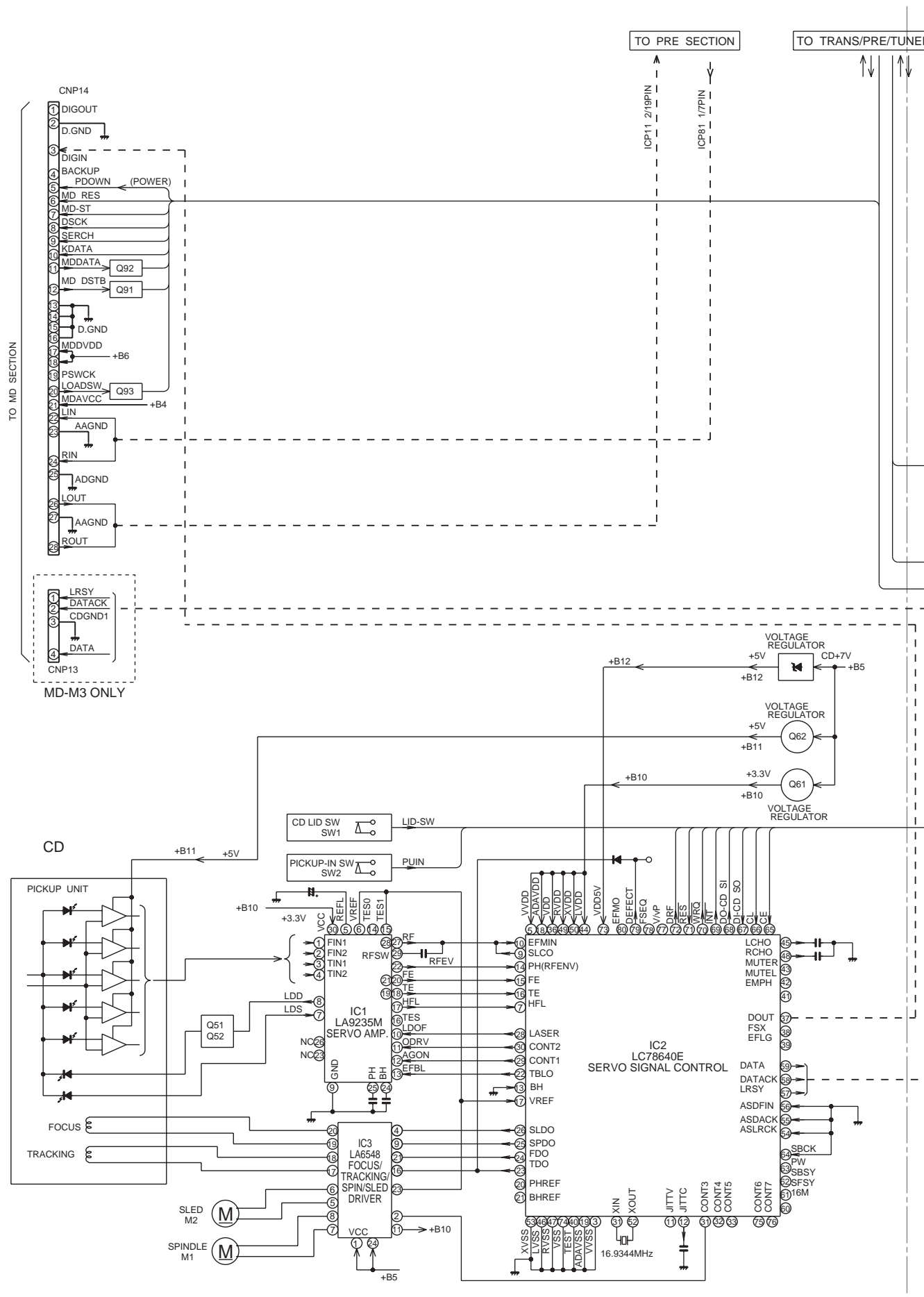


Figure 30 BLOCK DIAGRAM (4/5)

- 32 -

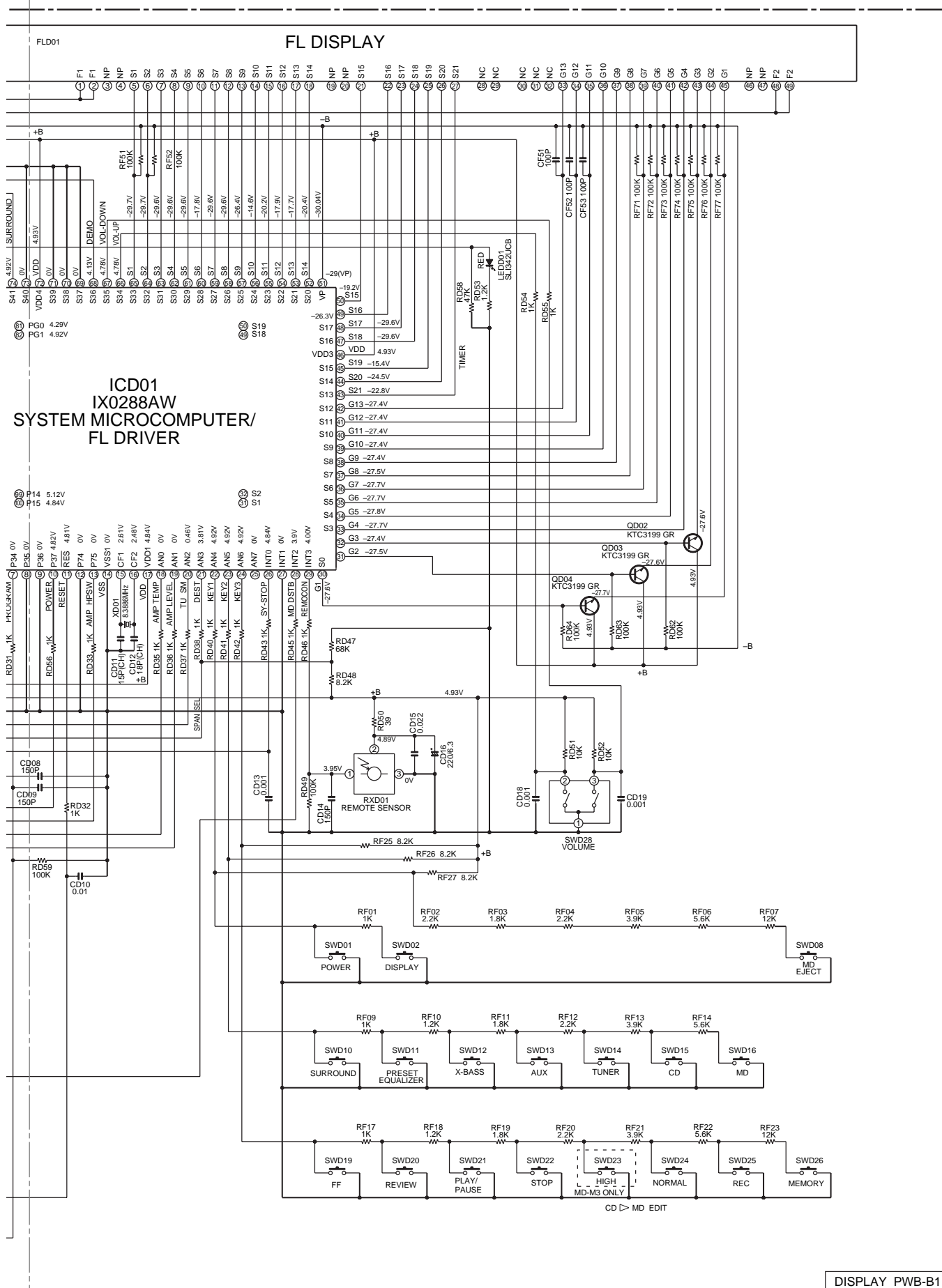


Figure 33 SCHEMATIC DIAGRAM (2/14)

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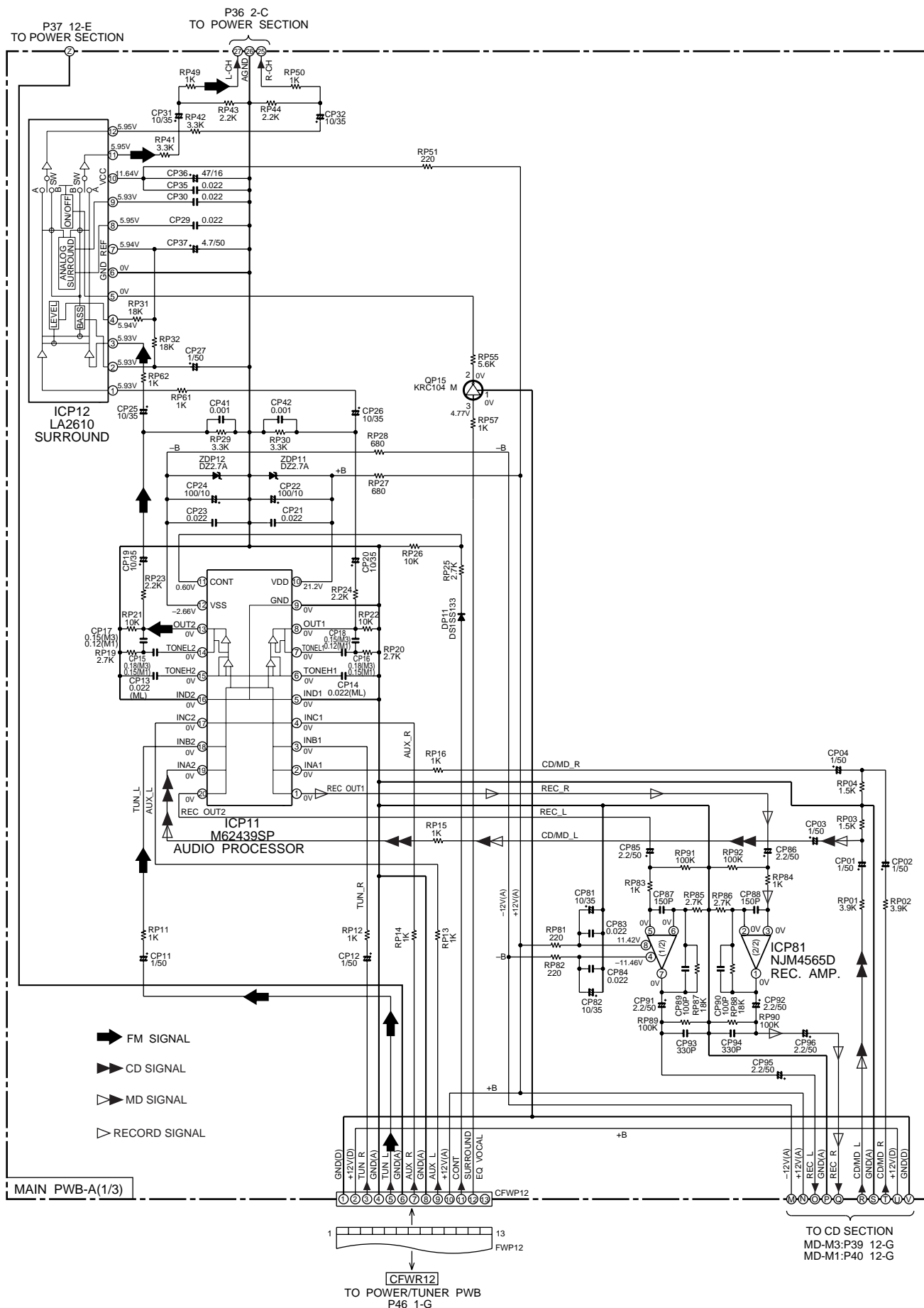


Figure 35 SCHEMATIC DIAGRAM (3/14)

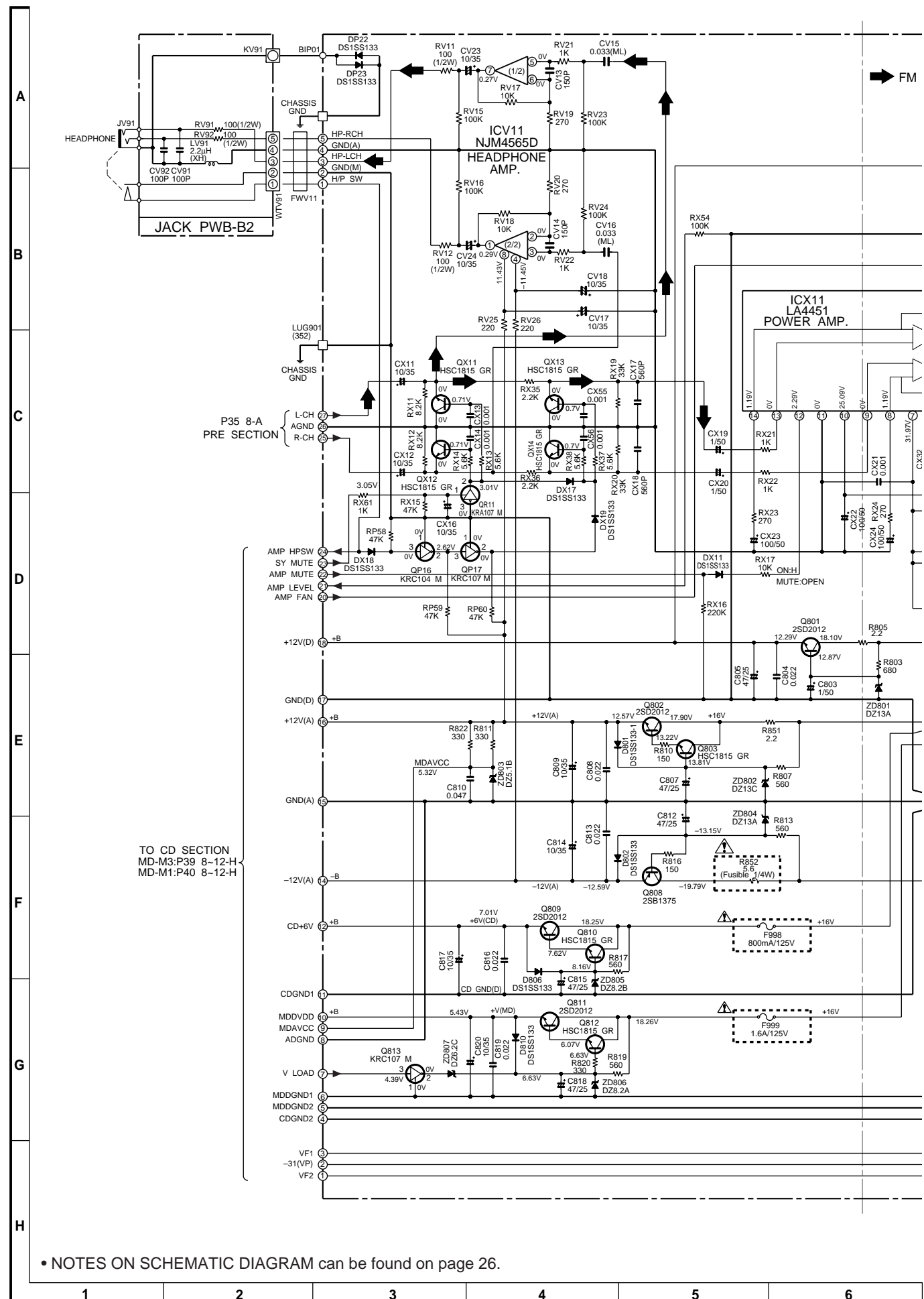


Figure 36 SCHEMATIC DIAGRAM (4/14)

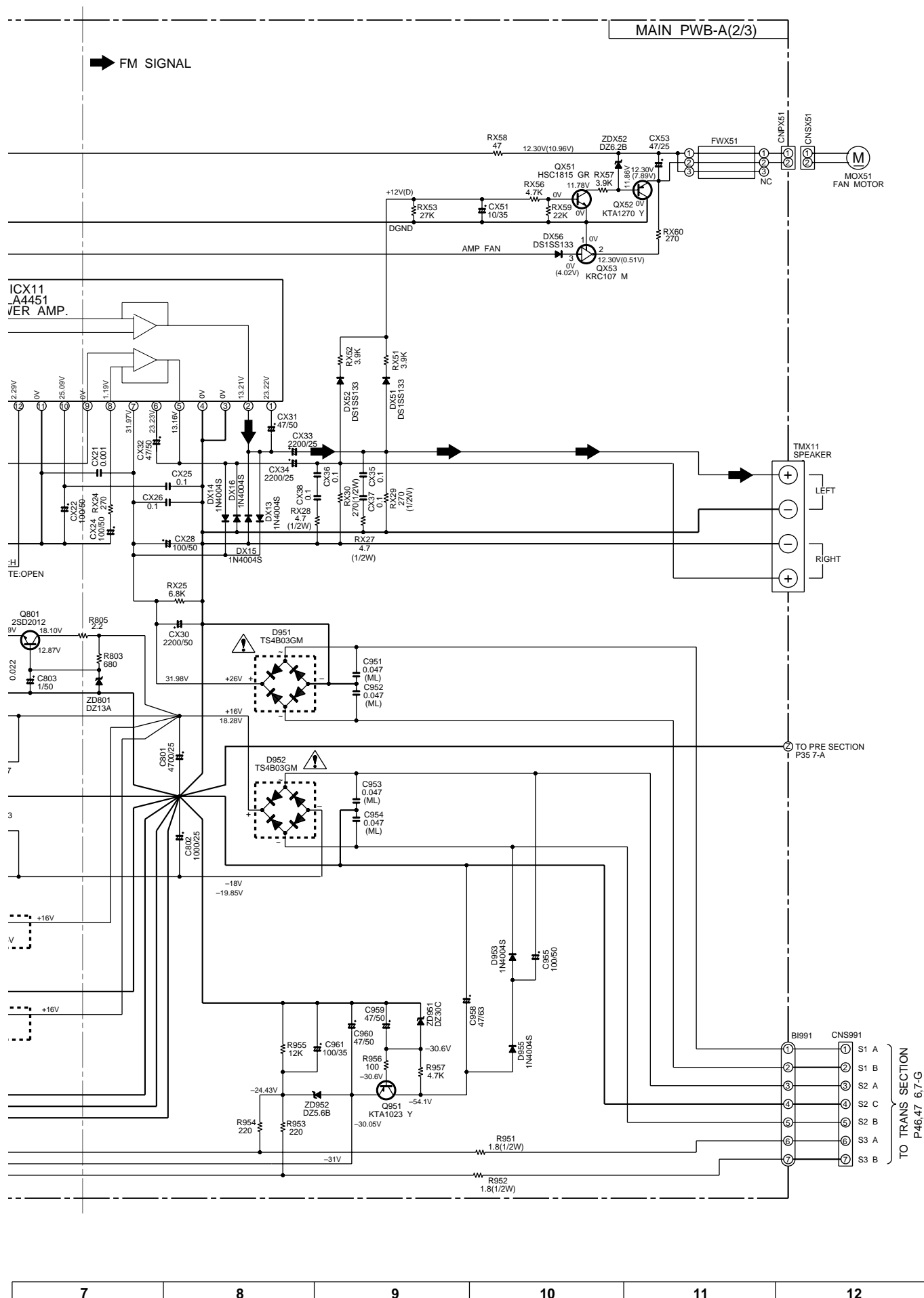
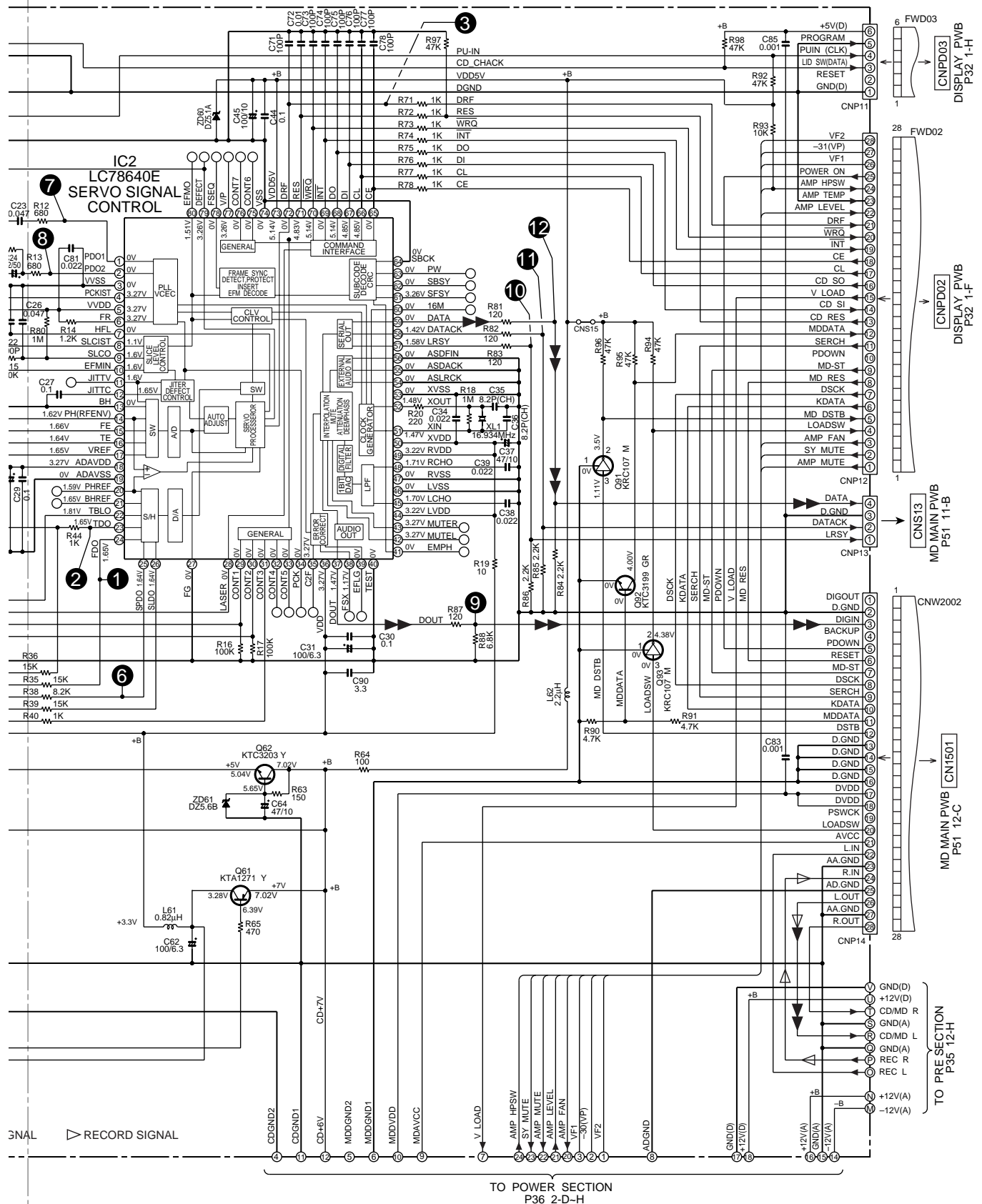


Figure 37 SCHEMATIC DIAGRAM (5/14)

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MD-M3

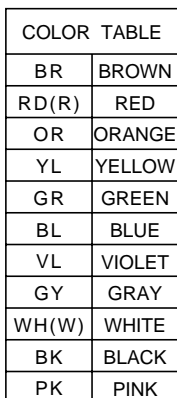


• The numbers ① to ⑬ are waveform numbers shown in page 54.

7	8	9	10	11	12
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Figure 39 SCHEMATIC DIAGRAM (7/14)





7	8	9	10	11	12
---	---	---	----	----	----

Figure 41 WIRING SIDE OF P.W.BOARD (2/8)

MD-M3

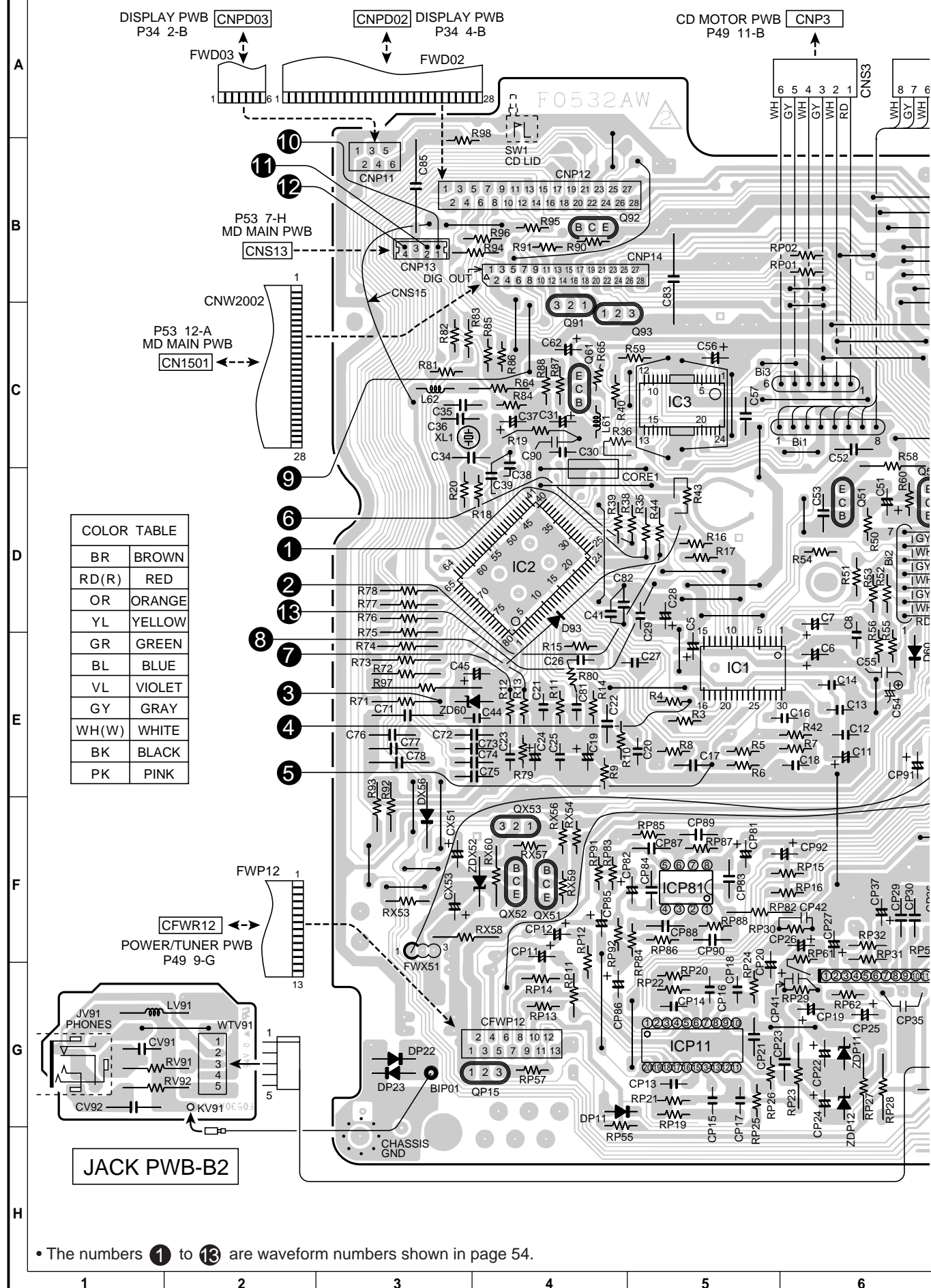


Figure 42 WIRING SIDE OF P.W.BOARD (3/8)

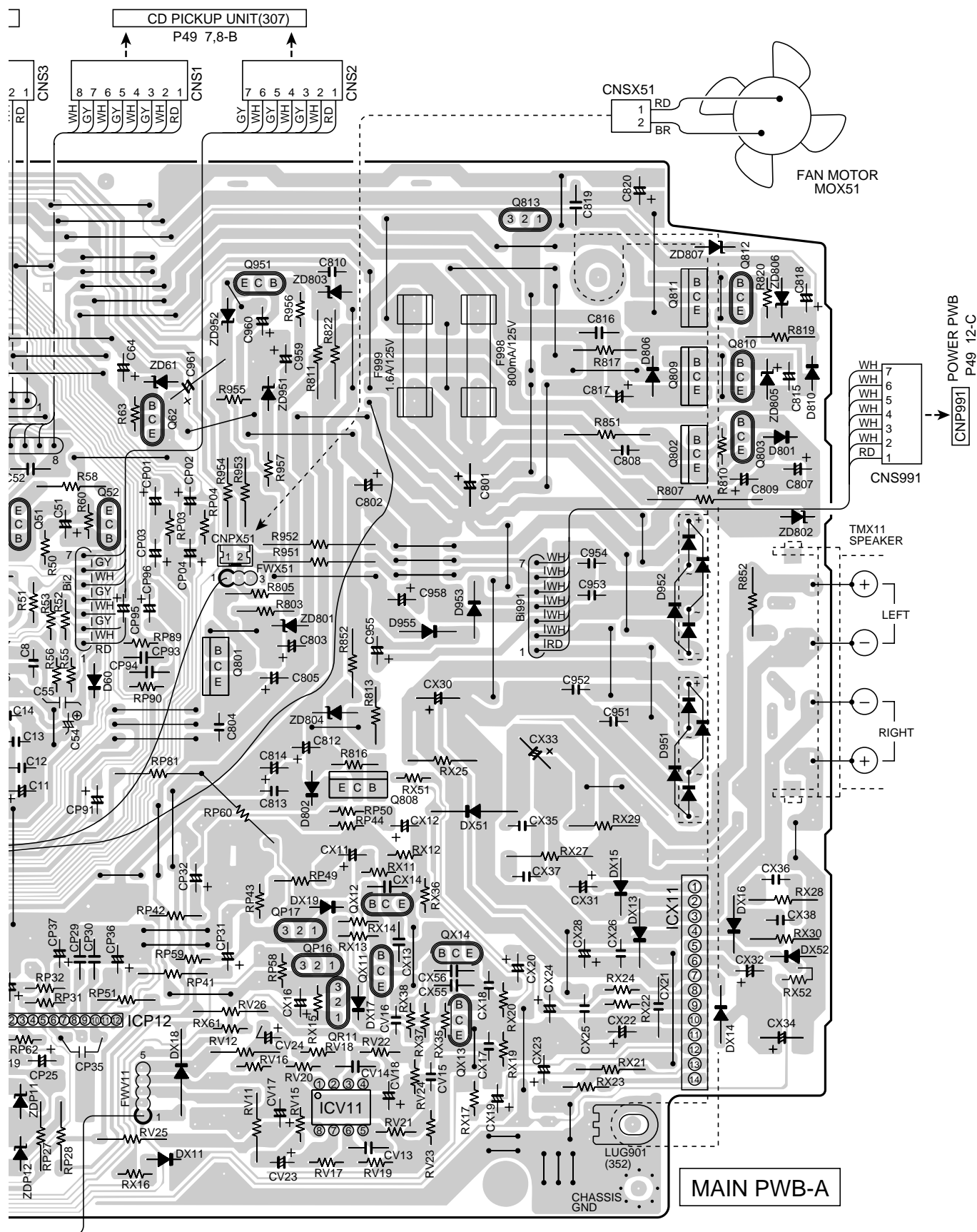


Figure 43 WIRING SIDE OF P.W.BOARD (4/8)

- 44 -

- 45 -

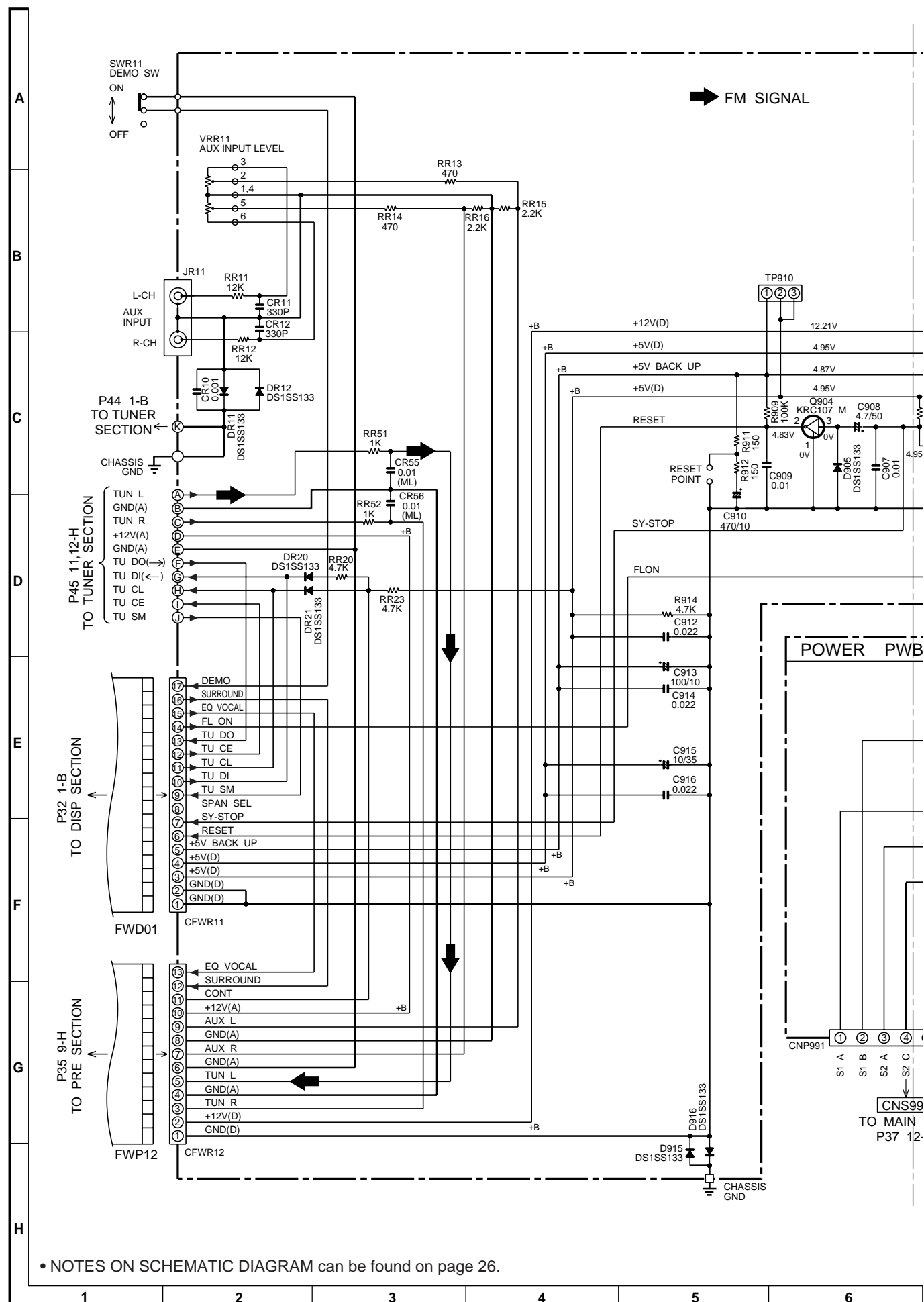


Figure 46 SCHEMATIC DIAGRAM (11/14)

POWER/TUNER PWB-C1(2/2)

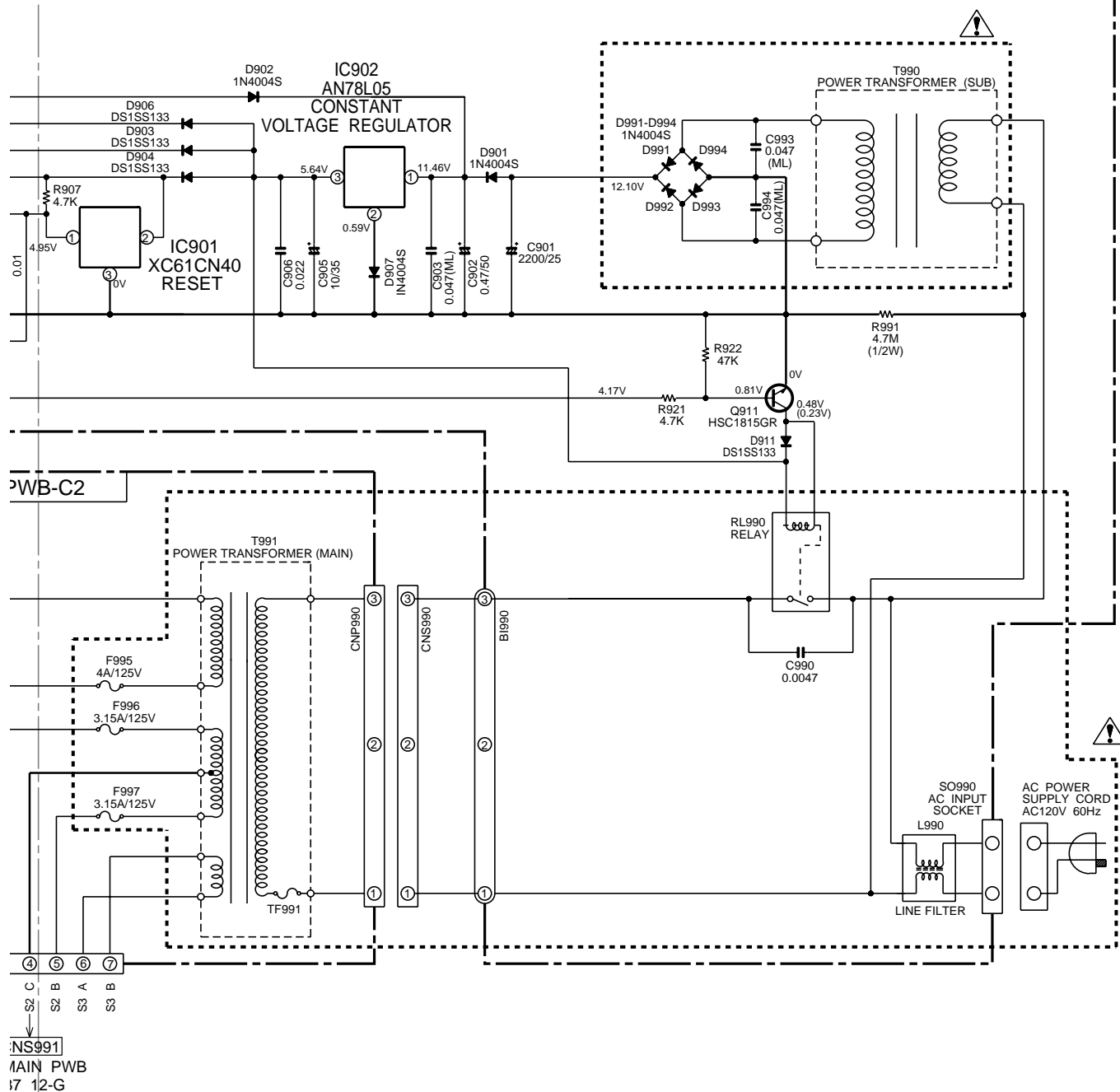


Figure 47 SCHEMATIC DIAGRAM (12/14)

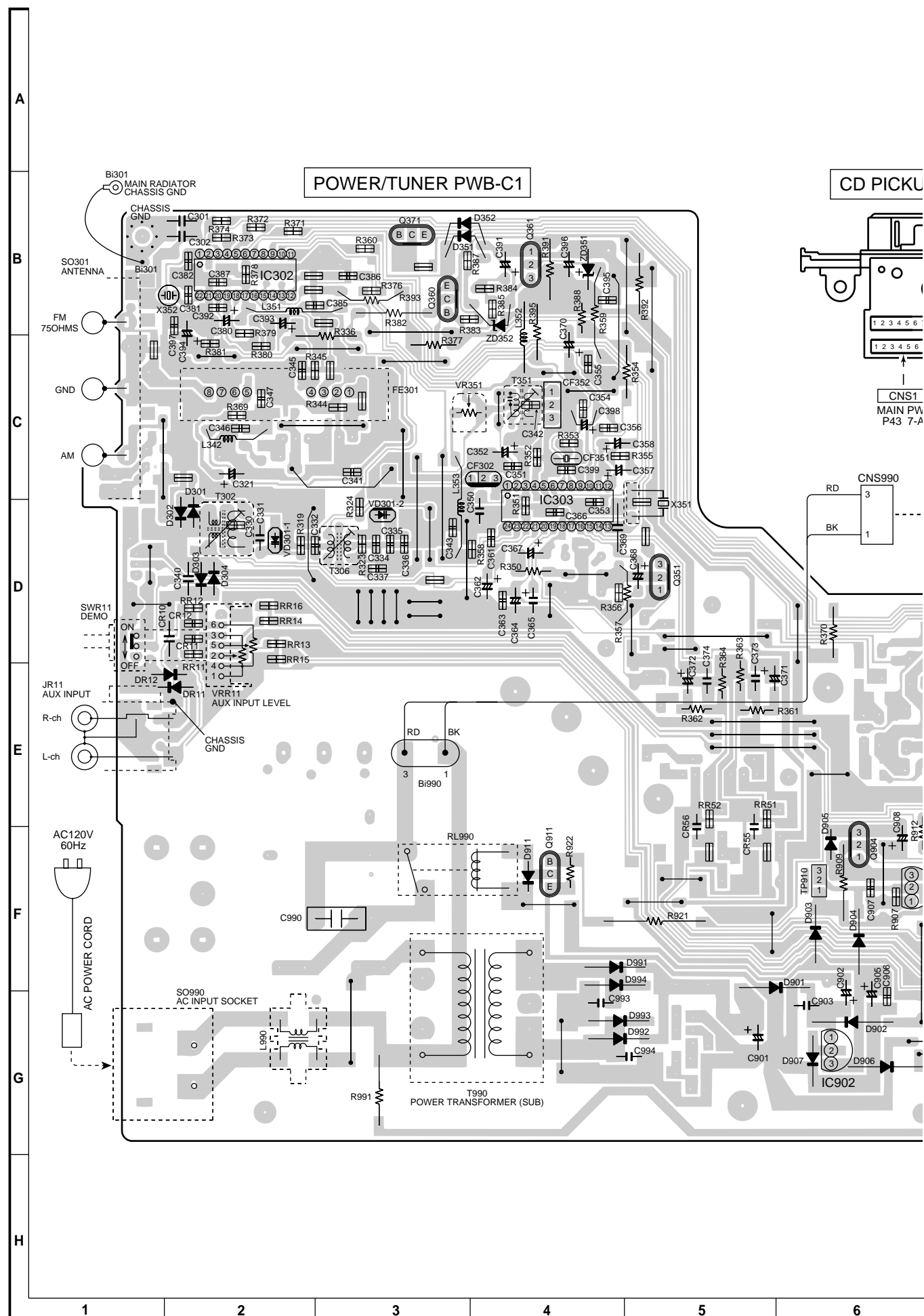


Figure 48 WIRING SIDE OF P.W.BOARD (5/8)

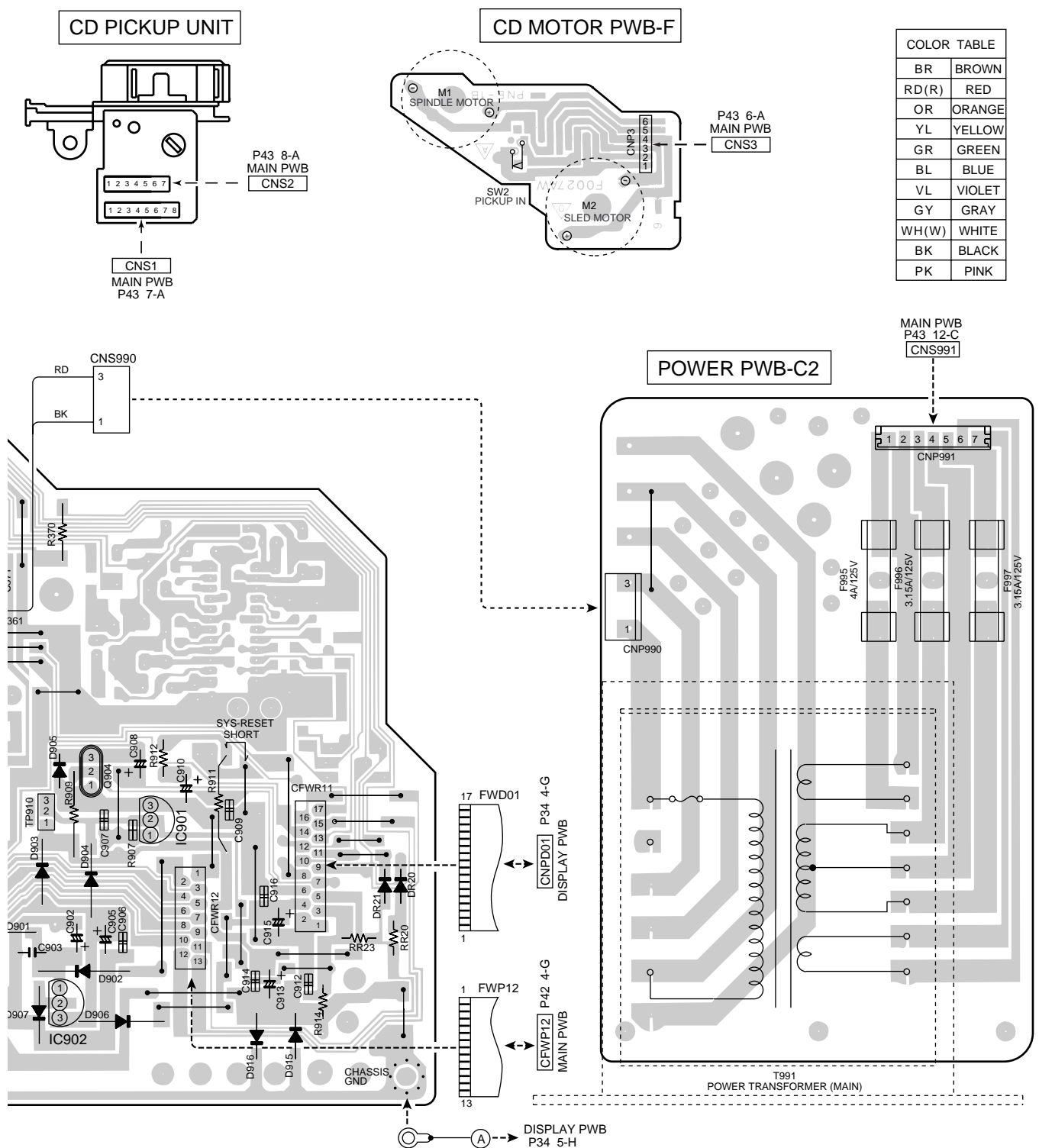
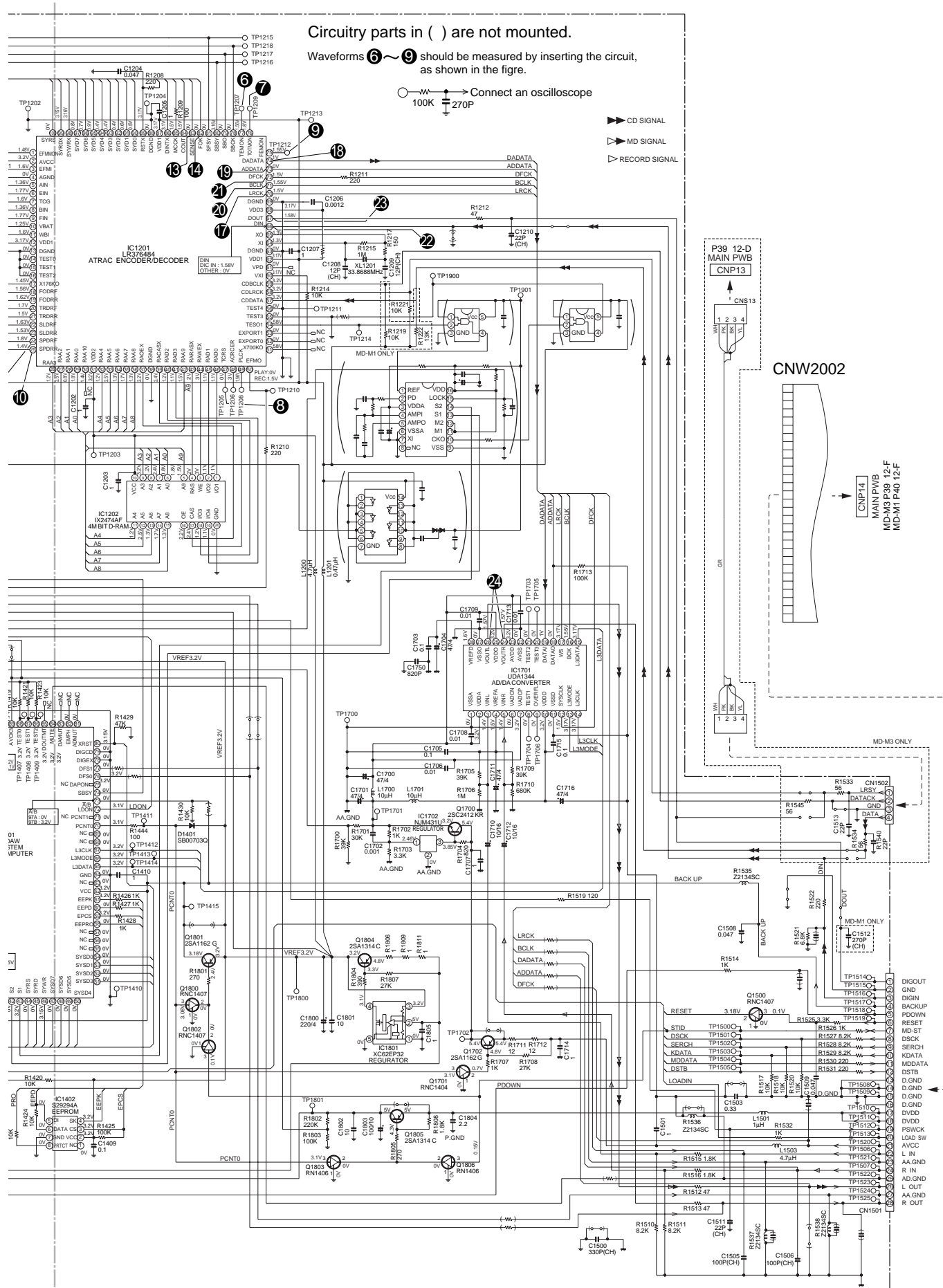


Figure 49 WIRING SIDE OF P.W.BOARD (6/8)

Figure 50 SCHEMATIC DIAGRAM (13/14)

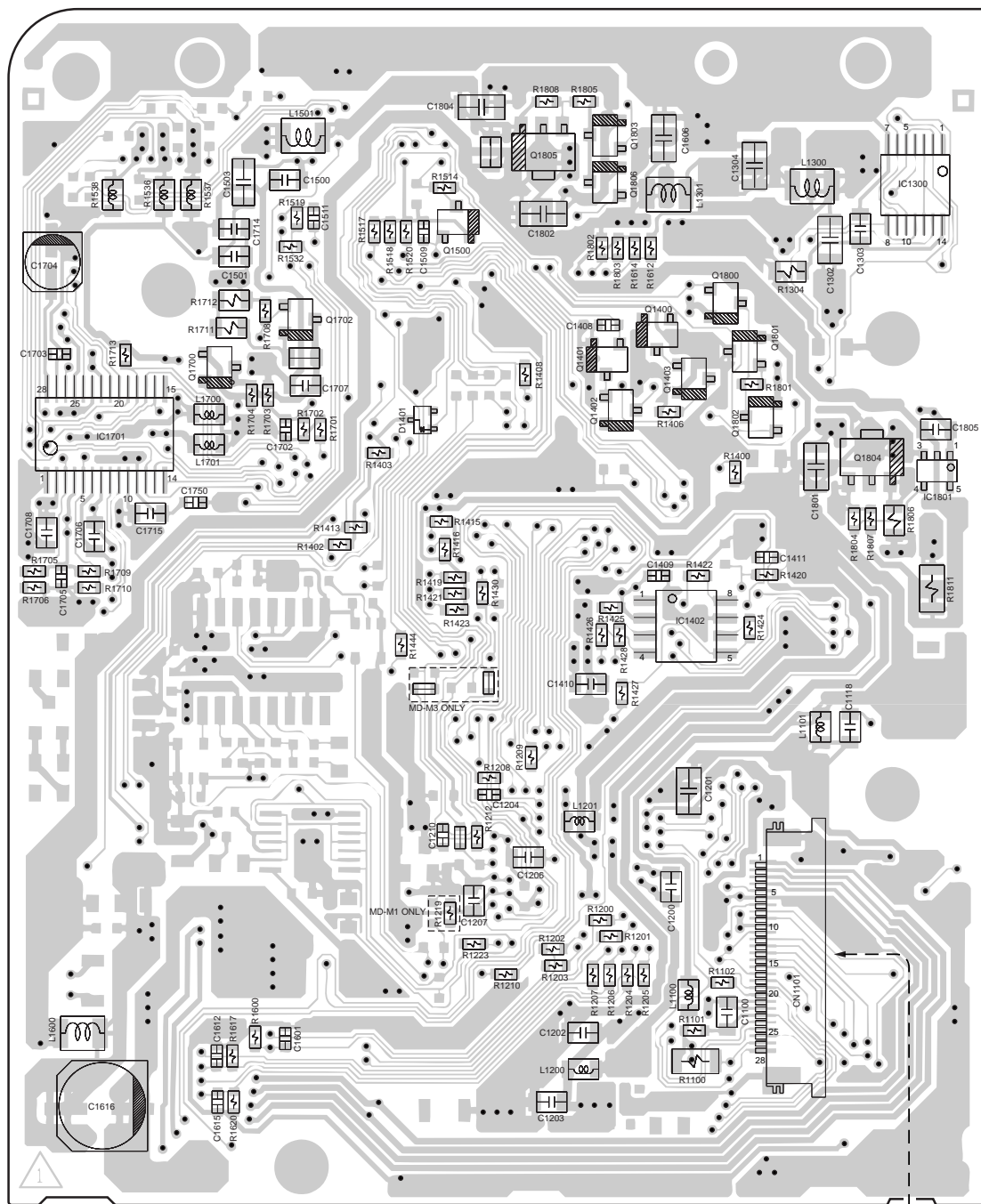


- The numbers 1 to 24 are waveform numbers shown in page 55 and 56.

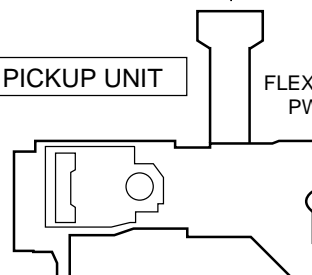
7	8	9	10	11	12
---	---	---	----	----	----

Figure 51 SCHEMATIC DIAGRAM (14/14)

H



FLEXIBLE
PWB



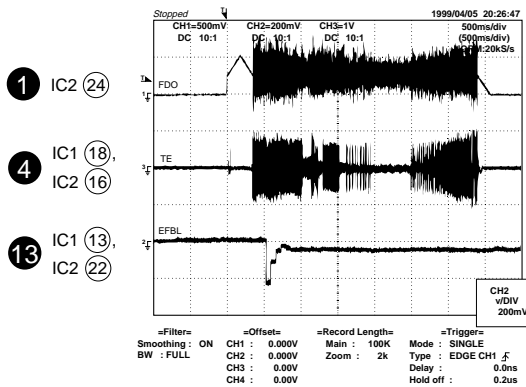
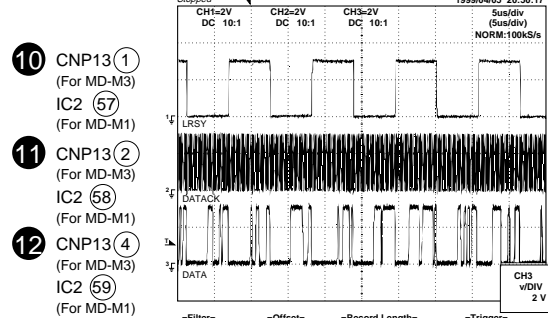
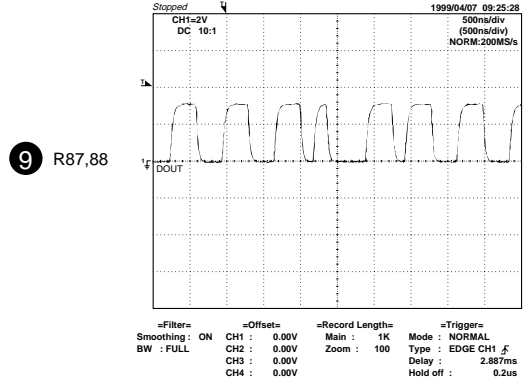
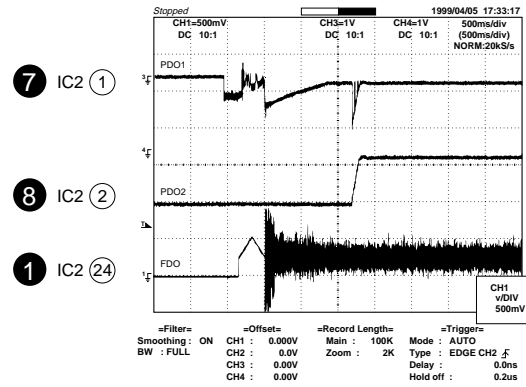
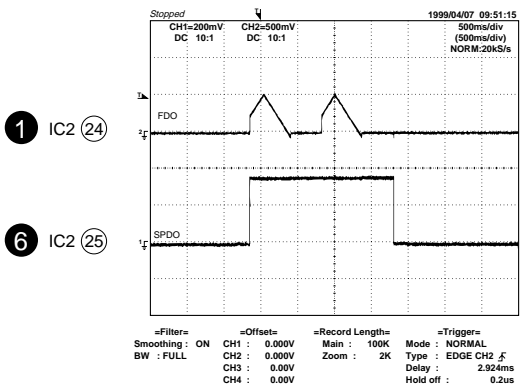
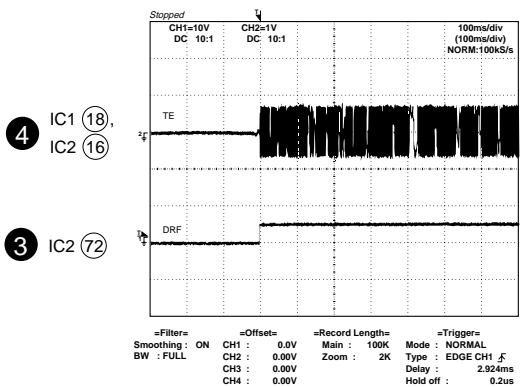
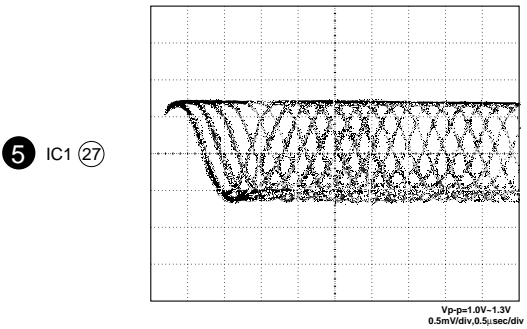
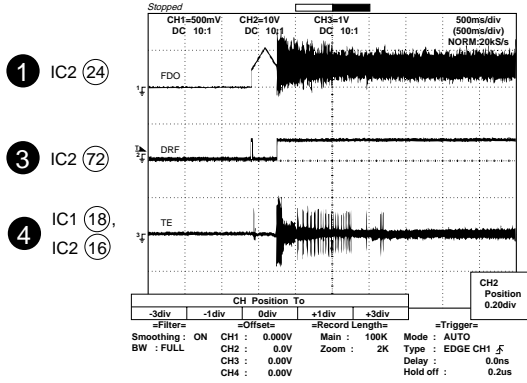
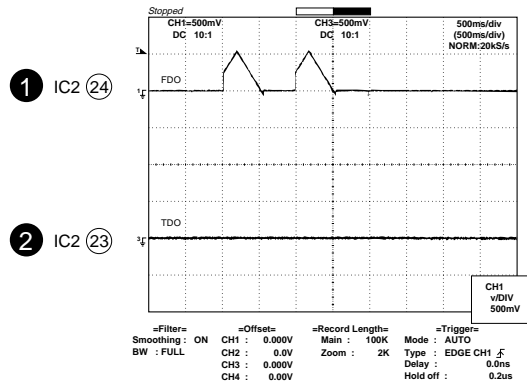
● : Through-hole where the top and bottom patterns are connected.

Figure 52 WIRING SIDE OF P.W.BOARD (7/8)



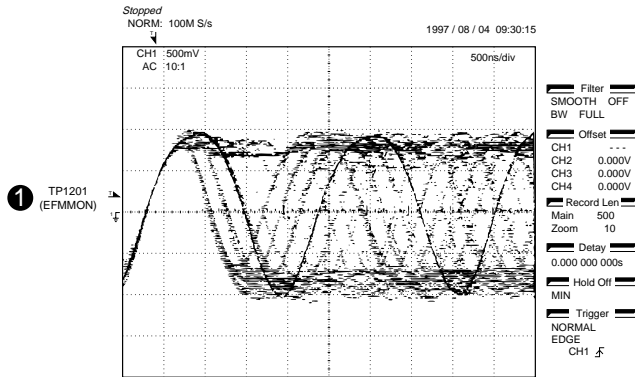
Figure 53 WIRING SIDE OF P.W.BOARD (8/8)

WAVEFORMS OF CD CIRCUIT

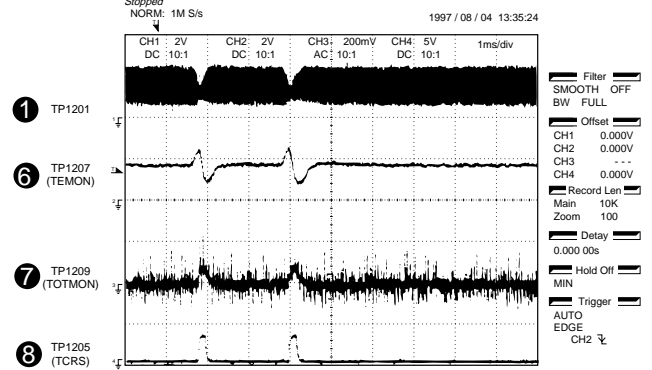


WAVEFORMS OF MD CIRCUIT

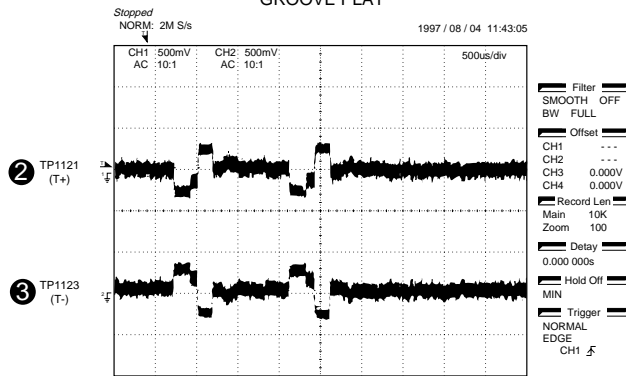
PLAY STATE



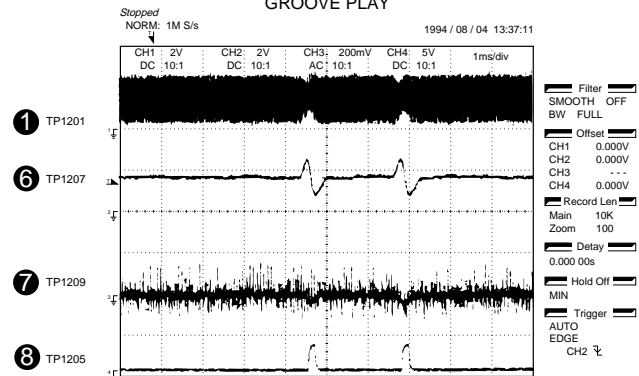
PIT PLAY



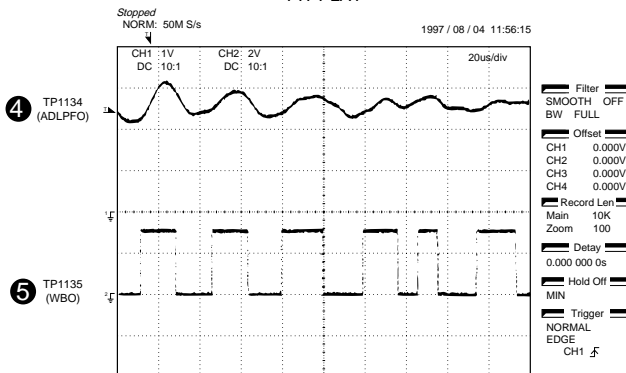
GROOVE PLAY



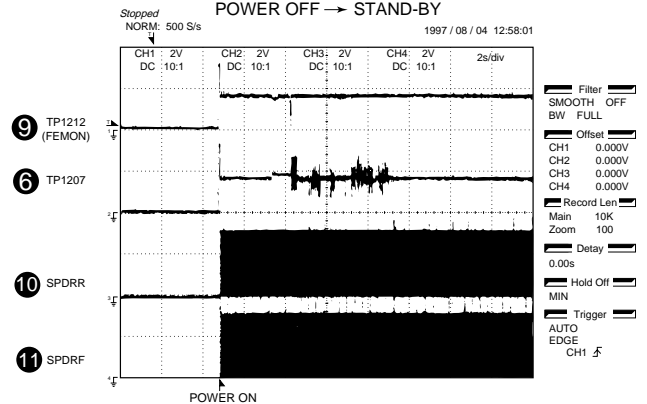
GROOVE PLAY



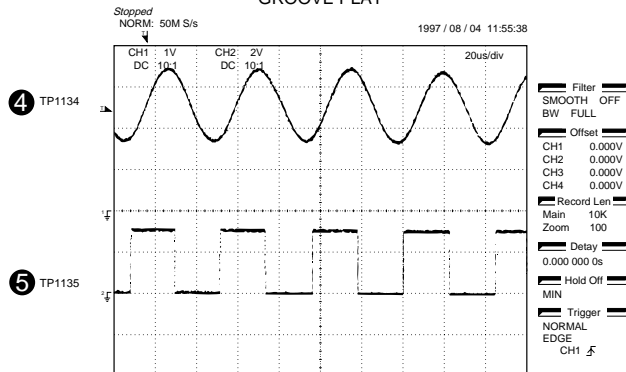
PIT PLAY



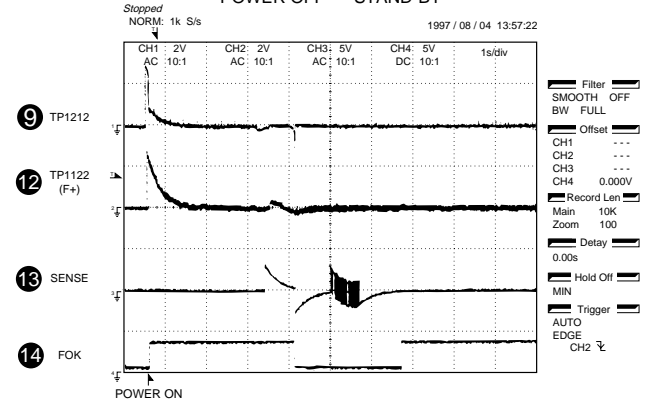
POWER OFF → STAND-BY

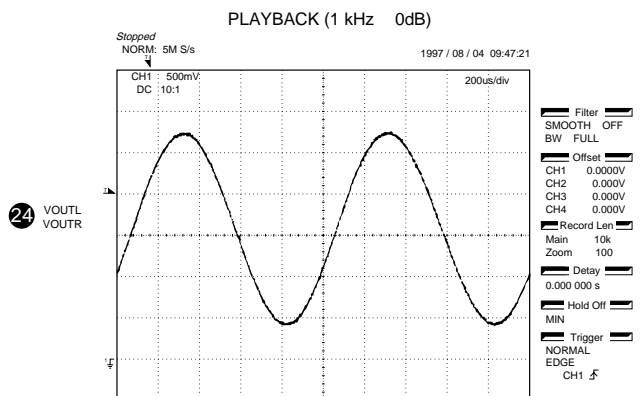
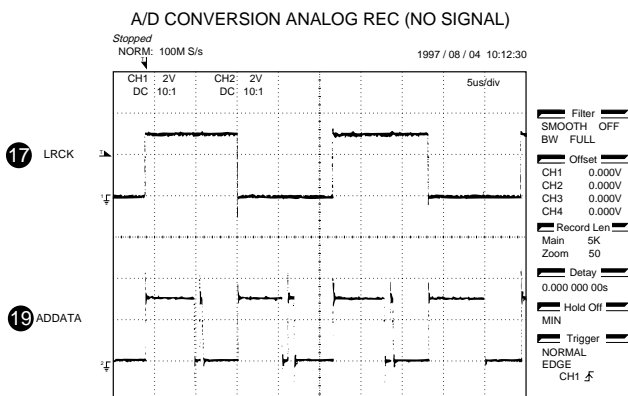
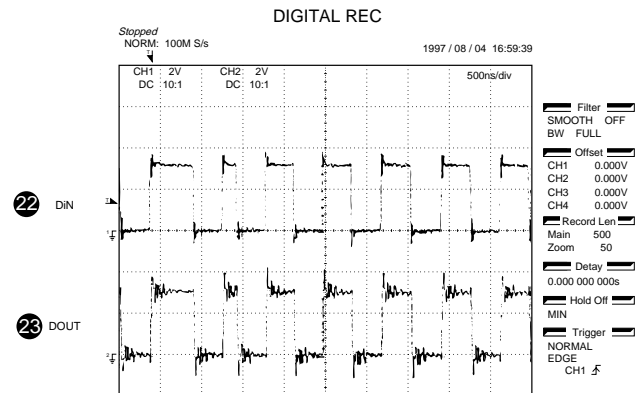
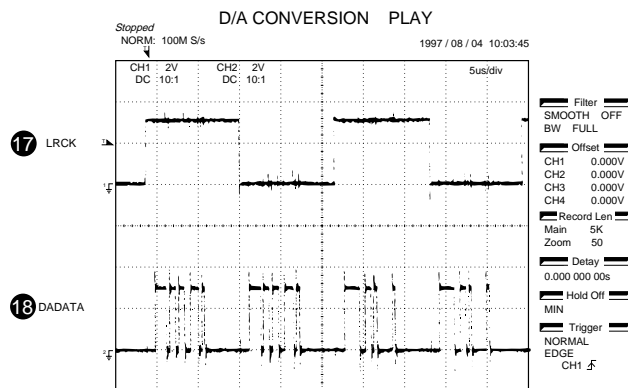
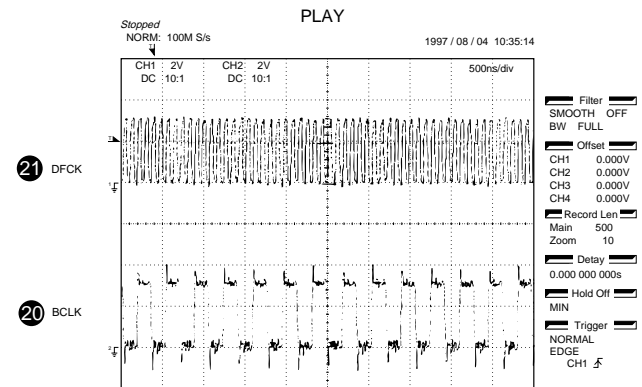
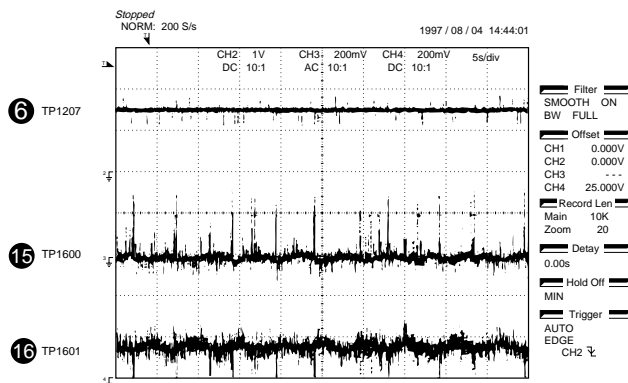
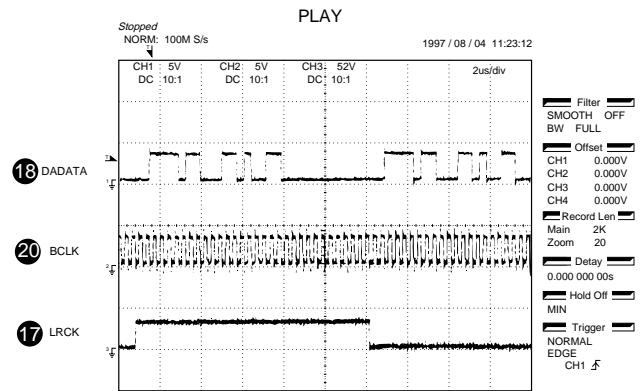
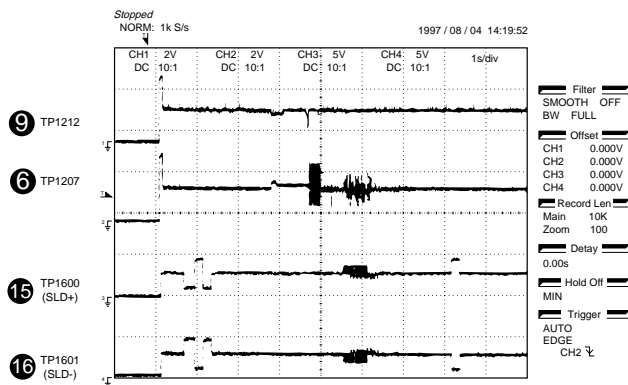


GROOVE PLAY



POWER OFF → STAND-BY





TROUBLE SHOOTING

CD SECTION

When the CD does not function

When the CD section does not operate when the objective lens of the optical pickup is dirty, this section may not operate. Clean the objective lens, and check the playback operation. When this section does not operate even after the above step is taken, check the following items.

Remove the cabinet and follow the trouble shooting instructions.

"Track skipping and/or no TOC (Table Of Contents) may be caused by build up of dust other foreign matter on the laser pickup lens. Before attempting any adjustment make certain that the lens is clean. If not, clean it as mentioned below."

Turn the power off.

Gently clean the lens with a lens cleaning tissue and a small amount of isopropyl alcohol.

Do not touch the lens with the bare hand.

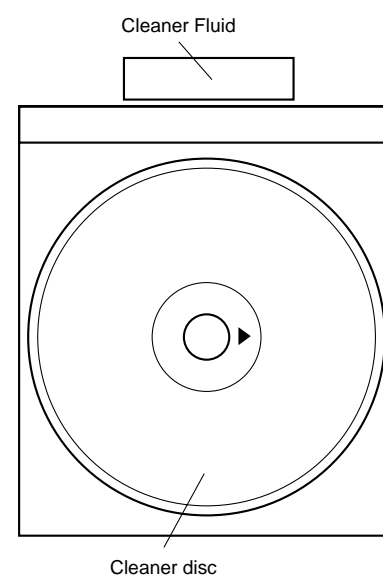
		Parts code
1.	CD optical pickup Lens cleaner disc	UDSKA0004AFZZ

HOW TO USE

1. Using the brush in the cleaner cap, apply 1 or 2 drops of the cleaning fluid to the brush on the CD cleaner disc which has the mark next to it.
2. Place the CD cleaner disc onto the CD disc tray with the brush side down, then press the play button.
3. You will hear music for about 20 seconds and the CD player will automatically stop. If it continues to turn, press the stop button.

CAUTION

- The CD lens cleaner should be effective for 30-50 operations, however if the brushes become worn out earlier then please the cleaner disc.
- If the CD cleaner brushes become very wet then wipe off any excess fluid with a soft cloth.
- Do not drink the cleaner fluid or allow it to come in contact with the eyes. In the event of this happening then drink and / or rinses with clean water and seek medical advice.
- The CD cleaner disk must not be used on car CD players or on computer CD ROM drives.
- All rights reserved. Unauthorized duplicating, broadcasting and renting this product is



When a CD cannot be played

1. "E-CD01" is displayed.

- (1) Check the power to IC2 (LC78640E), the presence of the clock signal (16.93 MHz) and the status of the RESET terminal (pin 70 on IC2).
- (2) Did the pickup move to the PICKUP-IN Switch (SW2) position?

If (1) and (2) are OK, check the system microcomputer (especially the communication line with the DSP).

2. Pressing the CD operation key is accepted, but playback does not occur.

- (1) Focus-HF system check
- (2) Tracking system check
- (3) Spin system check
- (4) PLL system check
- (5) Others

(1) Focus-HF system check

Although a CD is inserted and the cover is closed, "NO DISC" is displayed.

Press the LID switch (SW1) without inserting a disc, and try starting the playback operation.

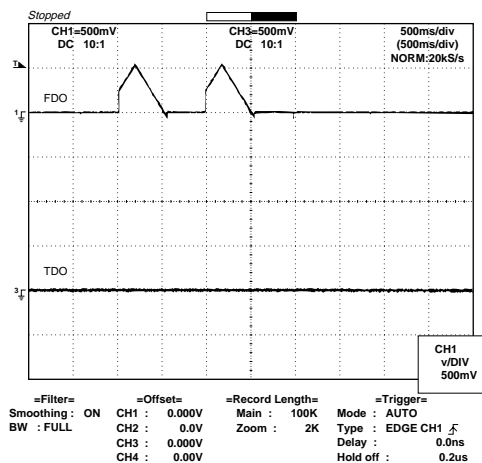
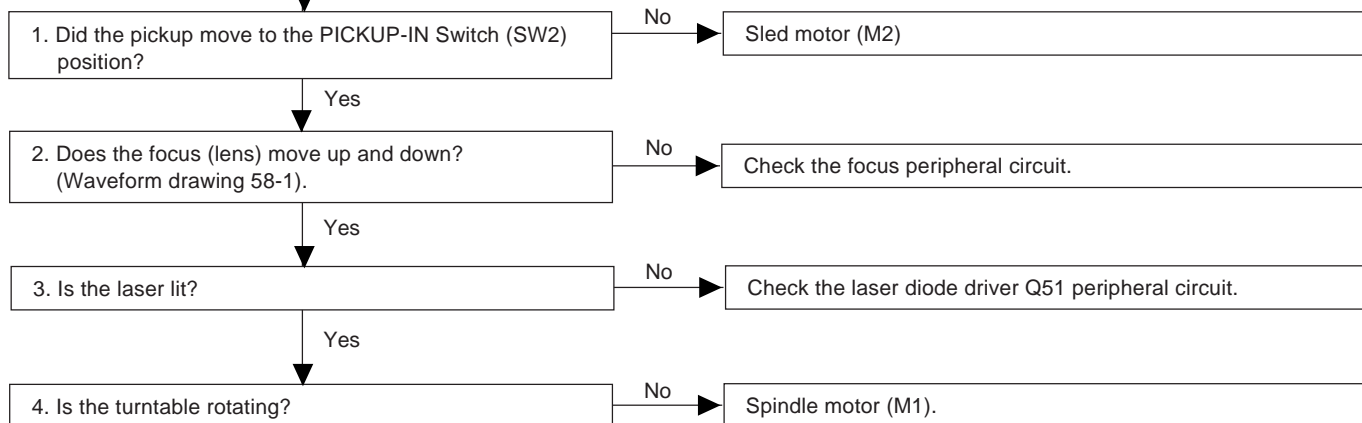


Figure 58-1



When a disc is loaded, start playback operation.

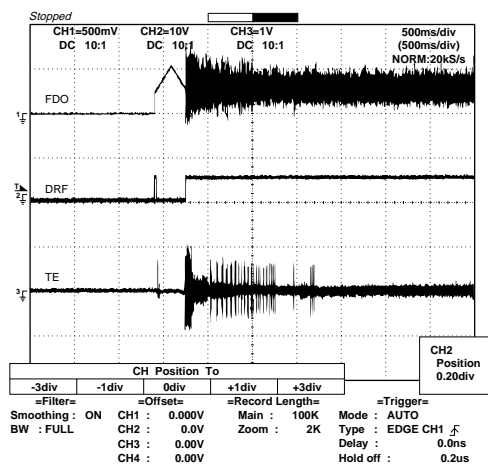
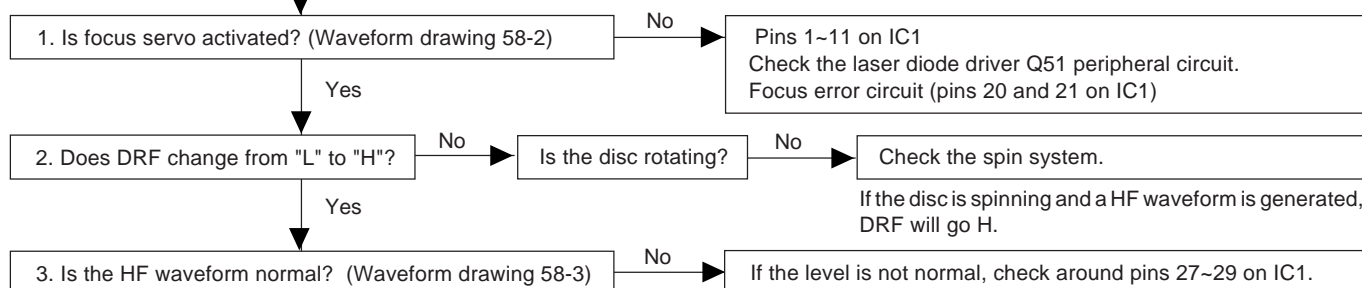


Figure 58-2

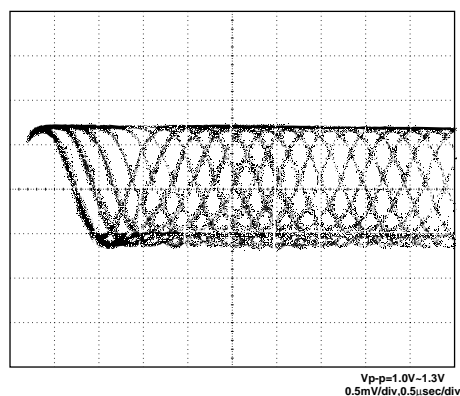


Figure 58-3

(2) Tracking system check

Check the TE waveform at pin 18 on IC1.

If the waveform shown in Figure 59-1 appears and soon after NO DISC appears.

The tracking servo is not activated.
Check the peripheral circuits at pins 18 and 19 on IC1, pin 23 on IC2, and CNS2.

"IL" is possible, but play is not possible.

A normal jump operation cannot be completed or the beginning of the track cannot be found.
Check the around pin 23 on IC2.

"IL" is not possible.

Data cannot be read. Check the VCO-PLL system.

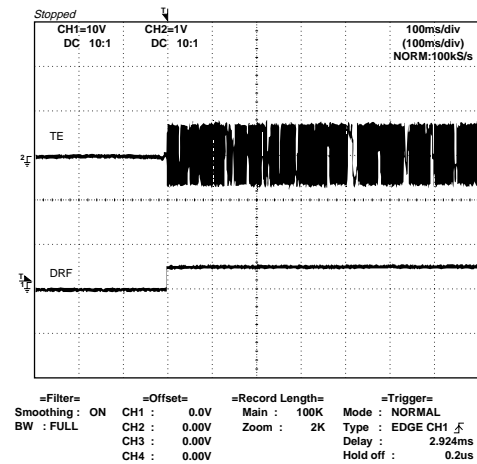


Figure 59-1

(3) Spin system check

Press the LID switch without inserting a disc, and then try starting the play operation.

1. The turntable rotates a little. (Waveform drawing 59-2)

The spin driver circuit is OK.

2. The turntable doesn't rotate.

Check around pin 25 on IC2, pins 7 and 8 on IC3, and CNS3.

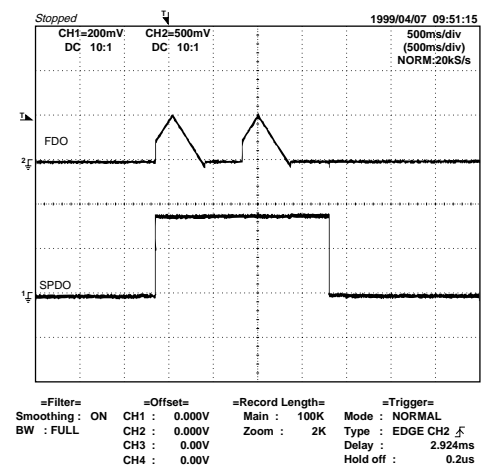


Figure 59-2

(4) PLL system check

When a disc is loaded, start play operation.

The HF waveform is normal, but the TOC data cannot be read.

Check the PDO waveform. (Figure 60-1)

Check around pins 1~6 on IC2.

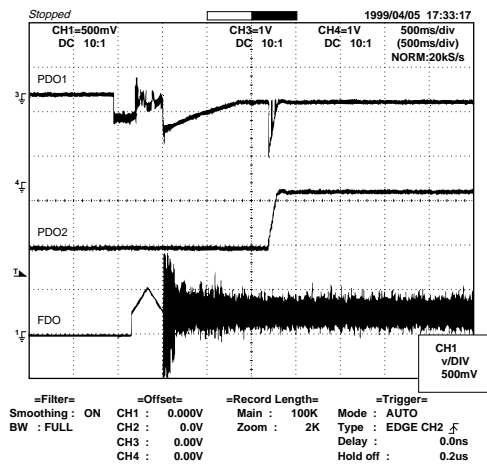


Figure 60-1

(5) Others

The HF waveform is normal and the time is displayed normally, but no sound is produced. Or the sound has dropouts.

Is pin 35 (C2F) on IC2 "L"?

No

There are too many error flags on a damaged disc which makes error correction impossible.

Check again using a known good disc.

Yes

1. When playing at normal speed
Check the peripheral circuit at pin 37 (DOOUT) on IC2 and the waveform (Figure 60-2).

2. When recording at double speed
Check the peripheral circuit at pins 57~59 (DATA, DATAACK, LRSY) on IC2 and the waveform (Figure 60-3).

If both 1. and 2. are OK, check the MD unit.

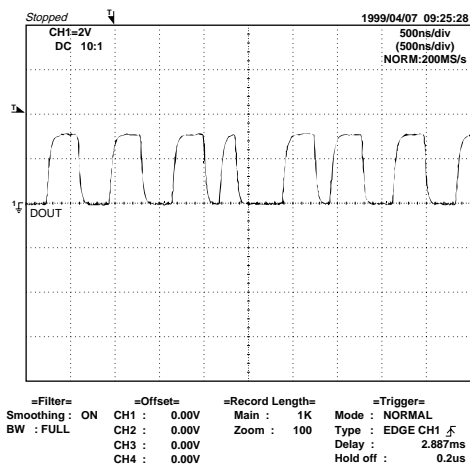


Figure 60-2

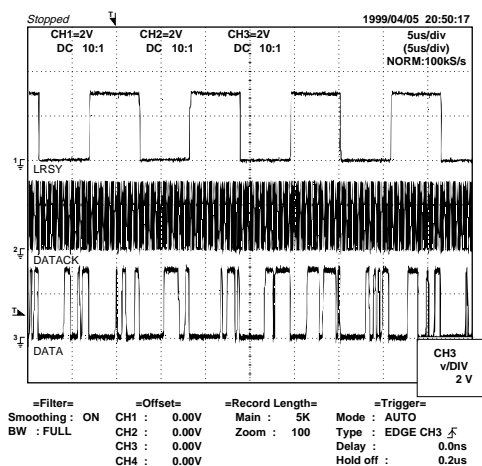


Figure 60-3

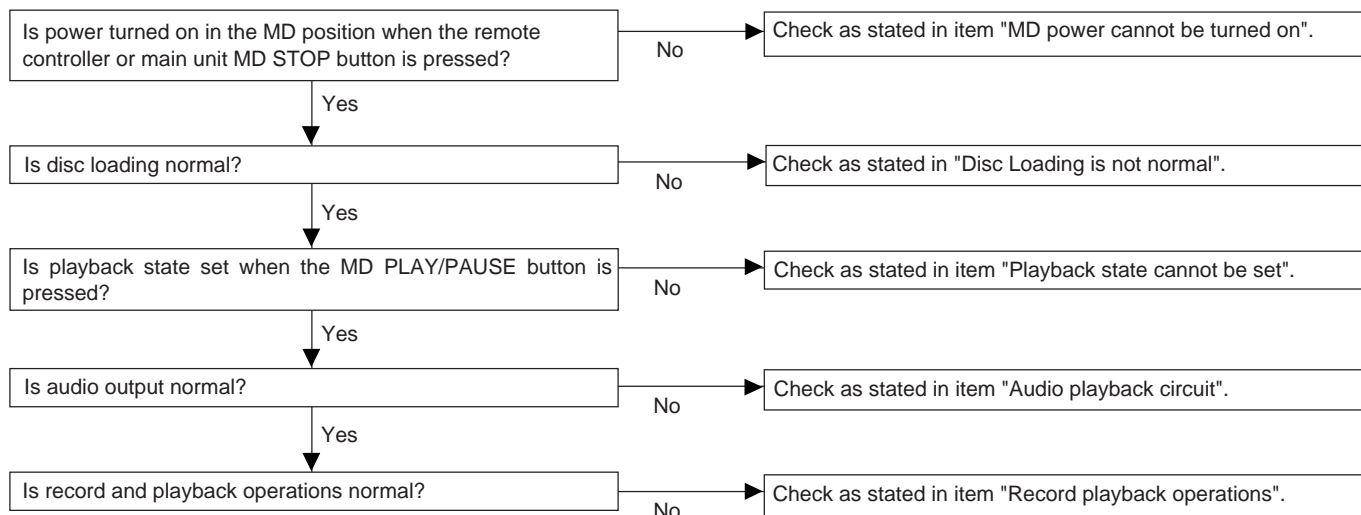
MD SECTION

When MD fails to operate

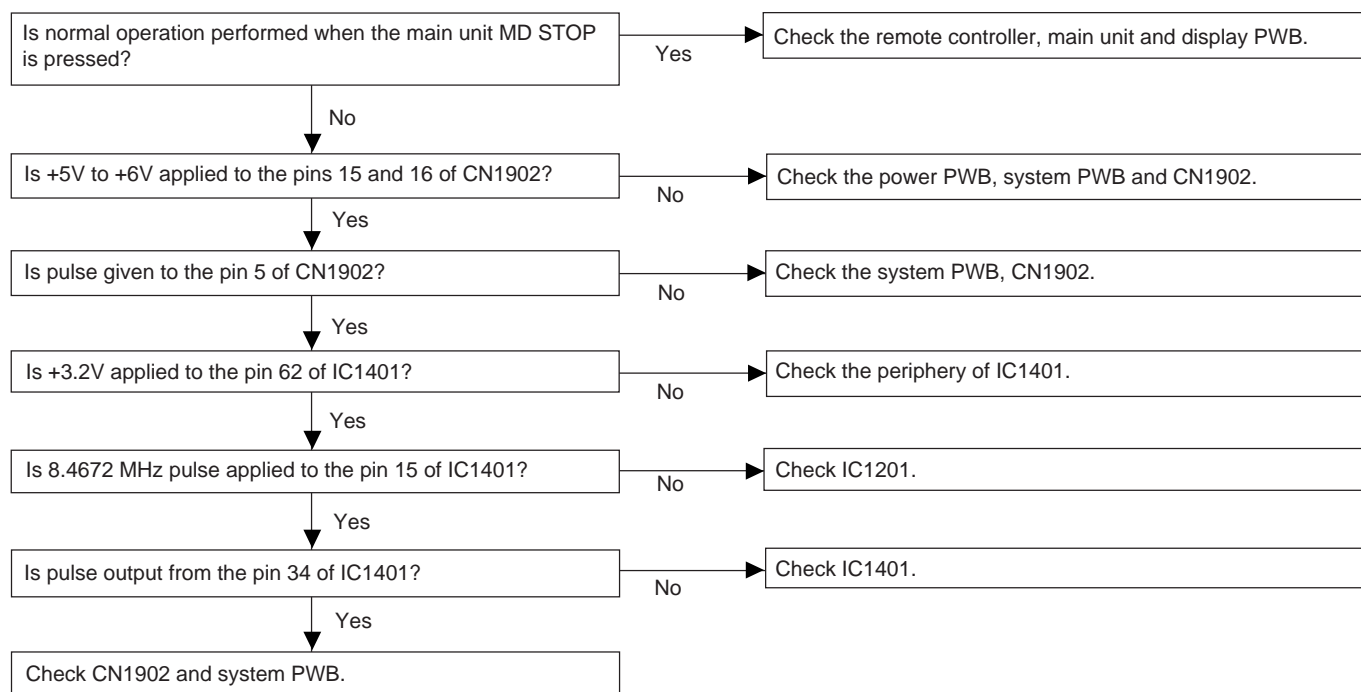
If the objective lens of optical pickup is contaminated, MD may fail to operate. At first, clean the objective lens to check playback operation. If MD fails persistently to operate, perform checks as follows.

If dust or foreign substance is accumulated on the pickup lens, playback is disturbed and indication of TOC (content of tracks) may be disabled. Before adjusting check that the lens is clean. If the lens is contaminated, treat it as follows.

Turn off power supply, impregnate the lens cleaning paper with a small quantity of isopropyl alcohol, and gently wipe the lens with it with due care so that the lens is not damaged. At this time do not touch the lens directly with your finger.

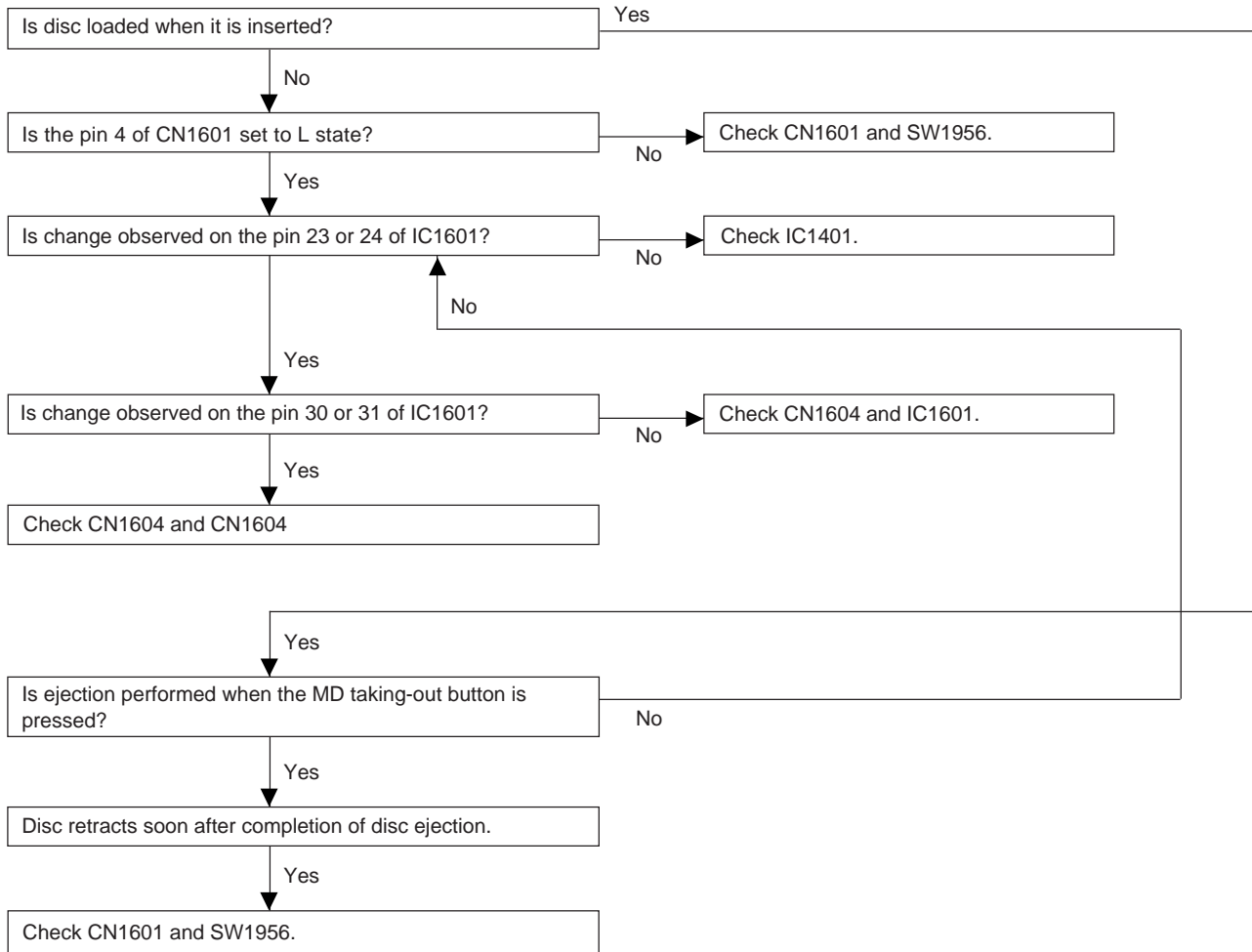


• MD power cannot be turned on.

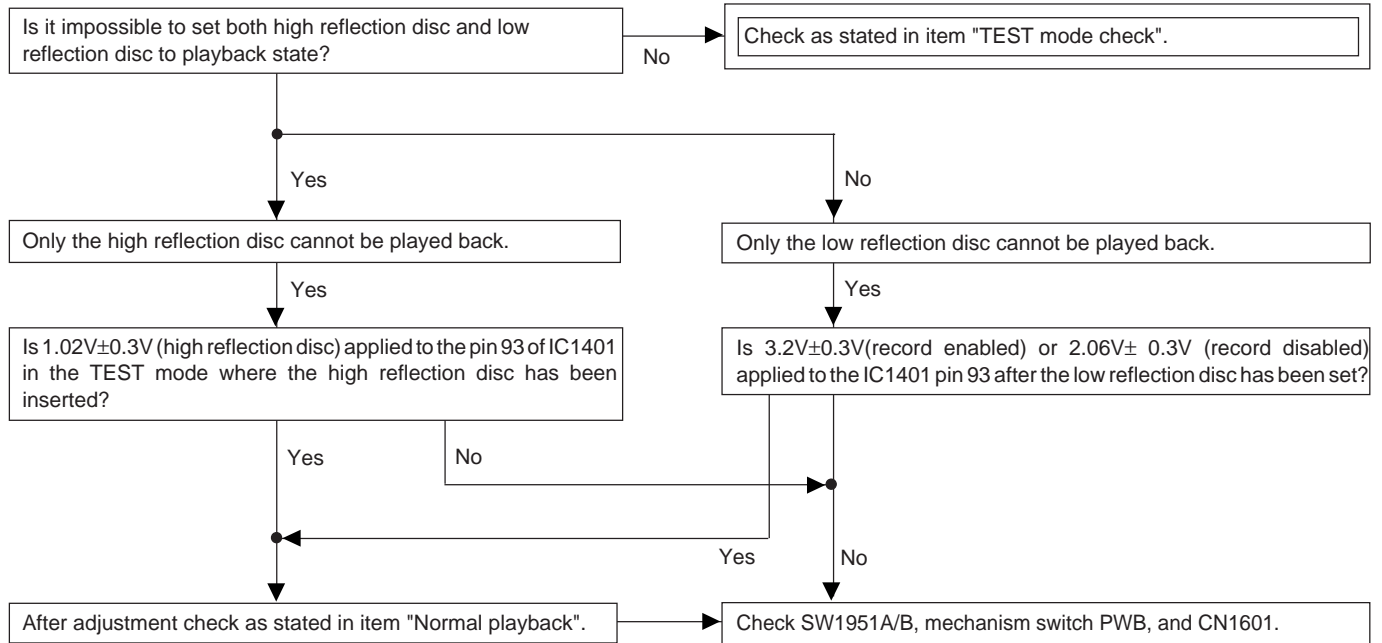


MD-M3/M1

• Disc loading is not normal.

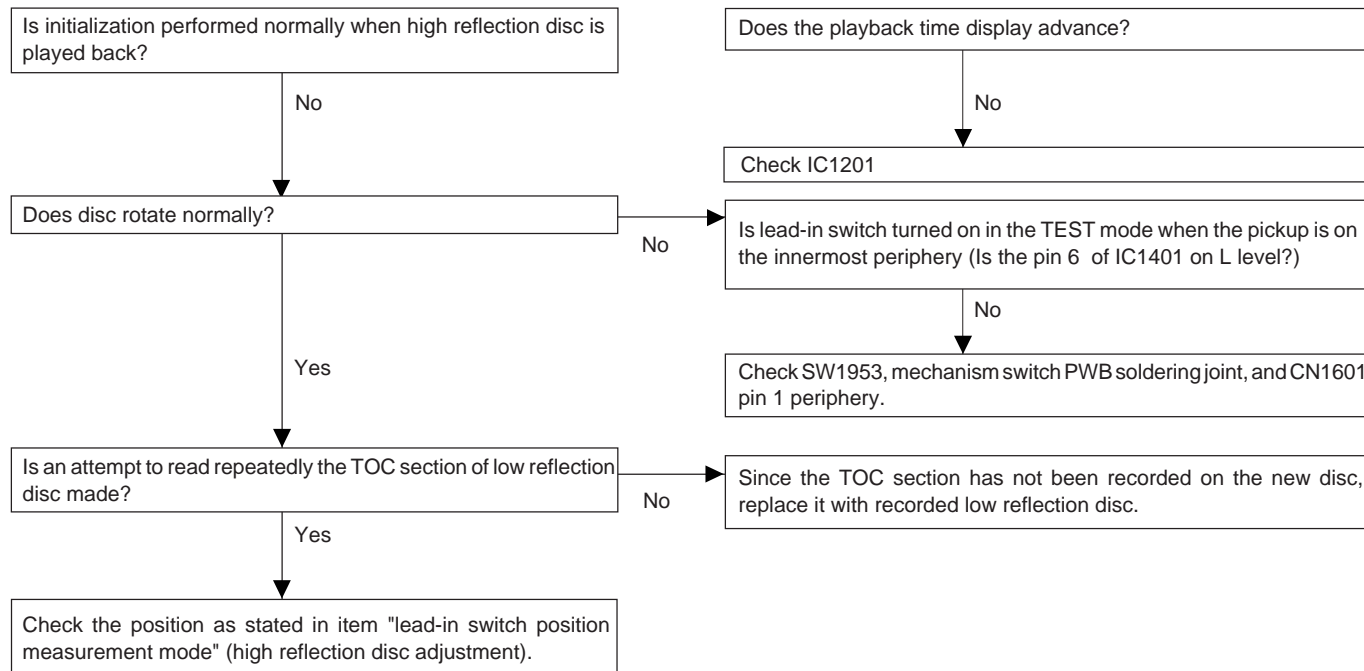


• Playback state cannot be set.



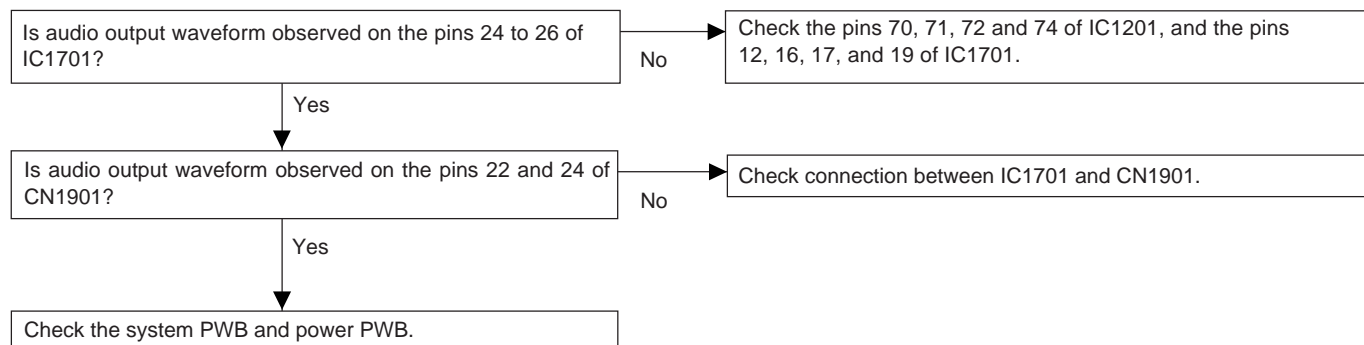
• Normal playback

When it has been confirmed that EEPROM value is normal in the TEST mode



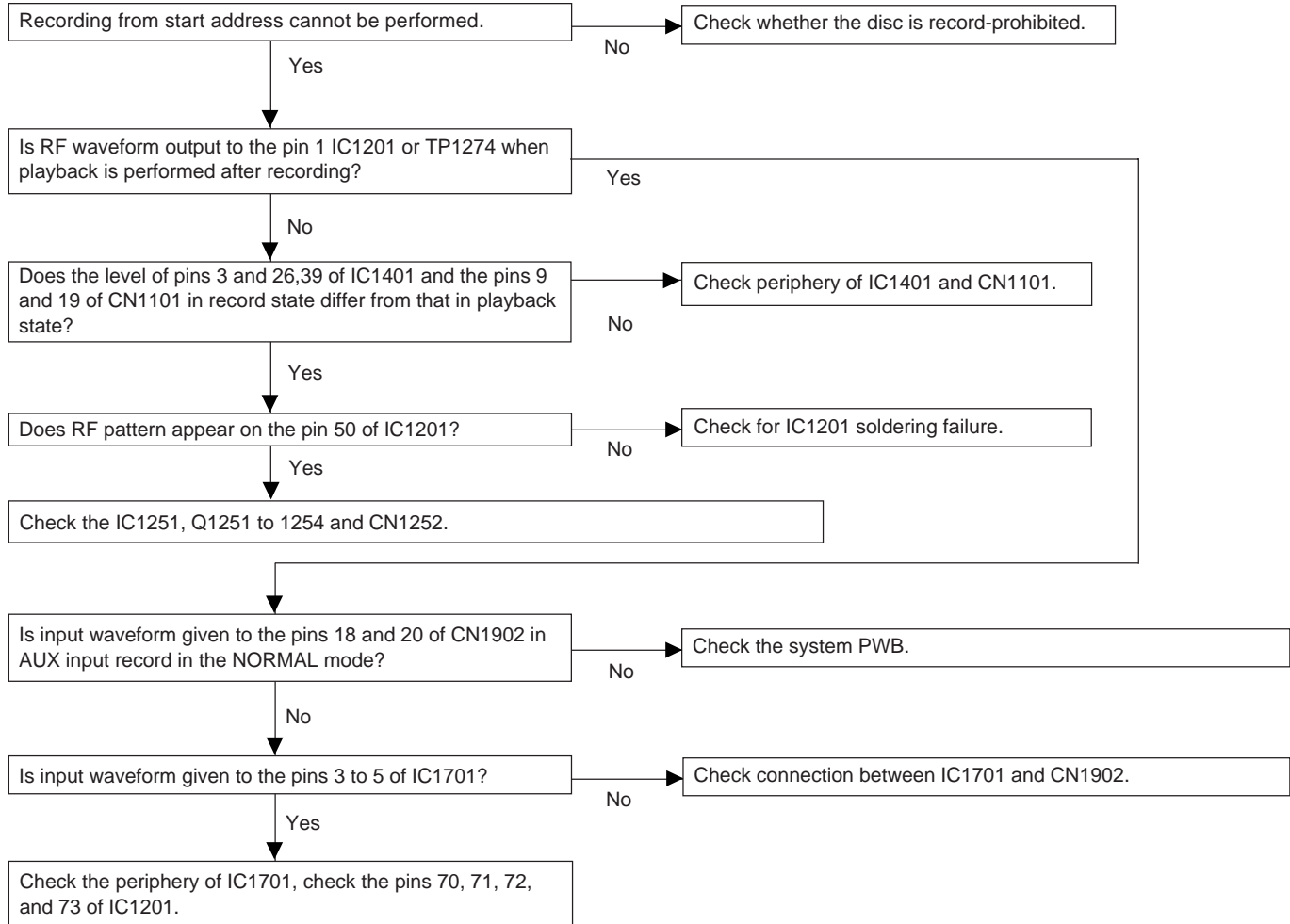
• Audio playback circuit

When sound is not output although the playback time display advances during playback in the normal mode.

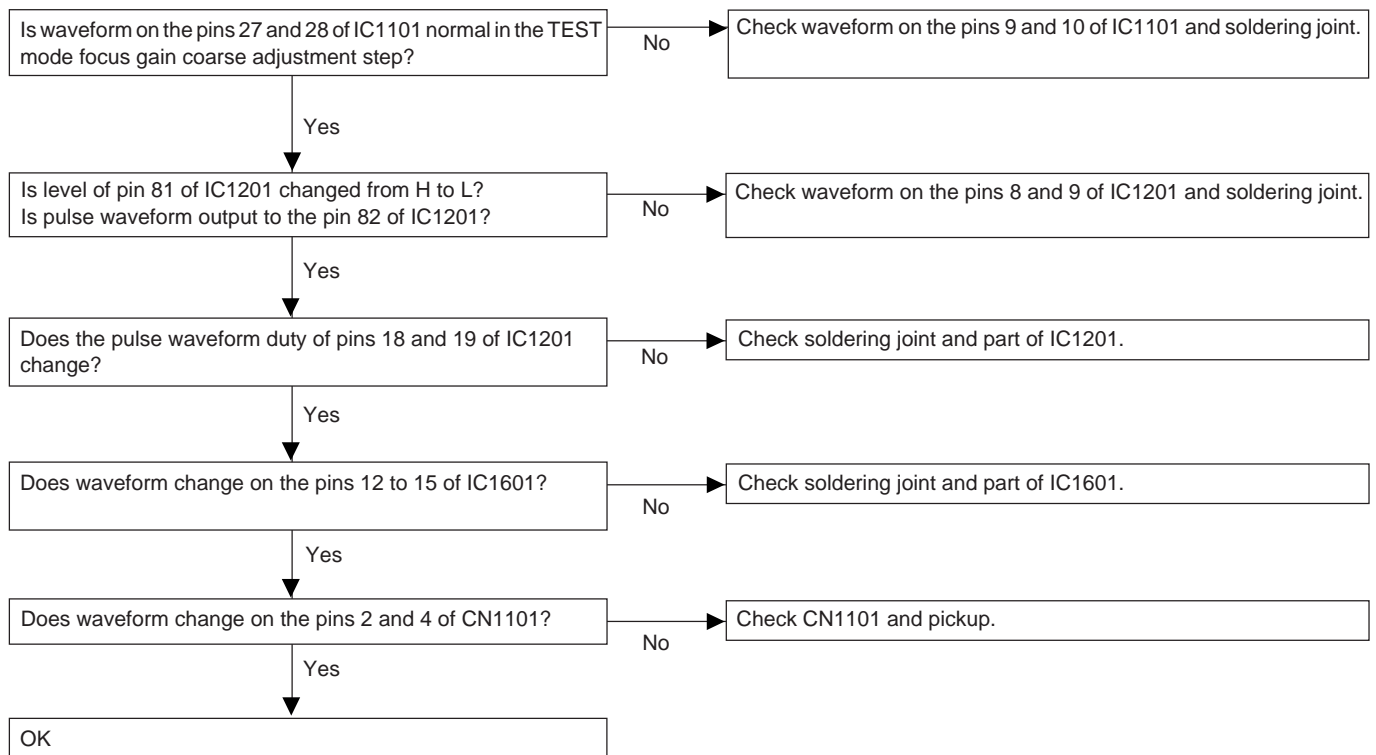


• Record and playback operation

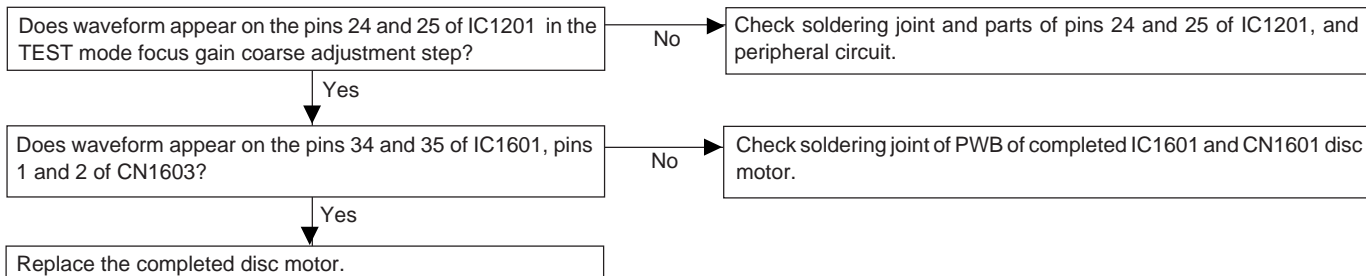
Insert the low reflection disc, and after verifying the audio output in the normal mode playback set the record/playback TEST mode



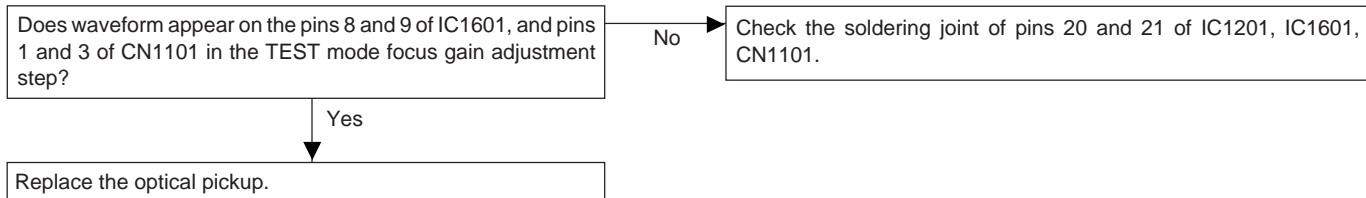
• Focus servo failure



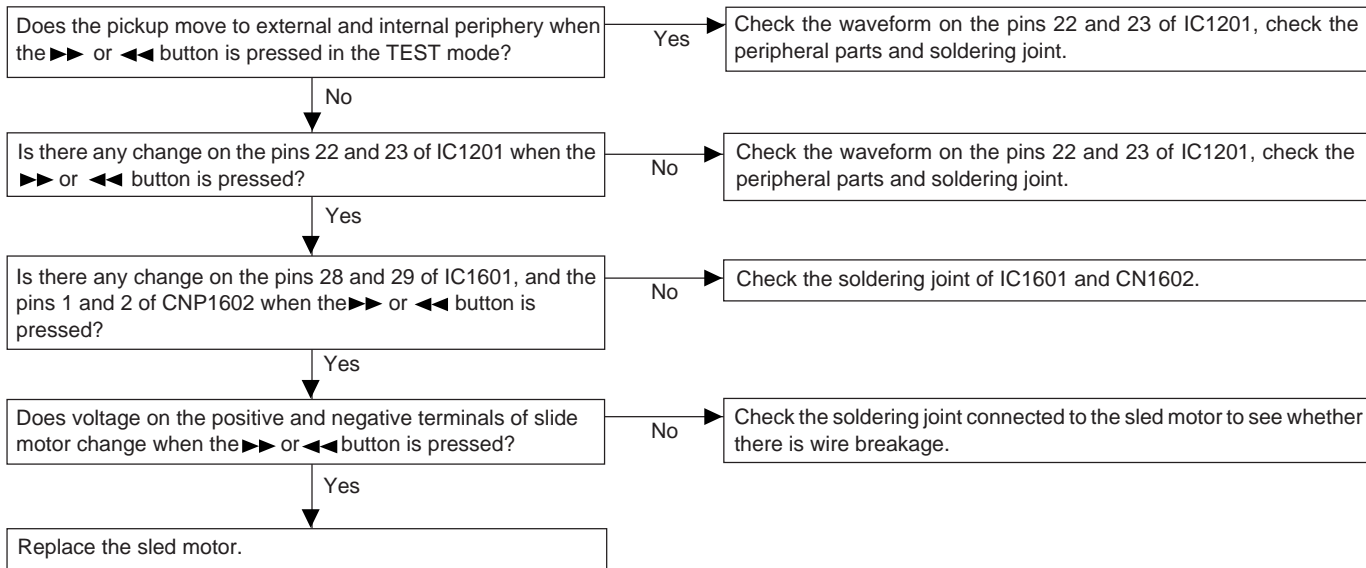
• Disc motor fails to run



• Tracking servo failure

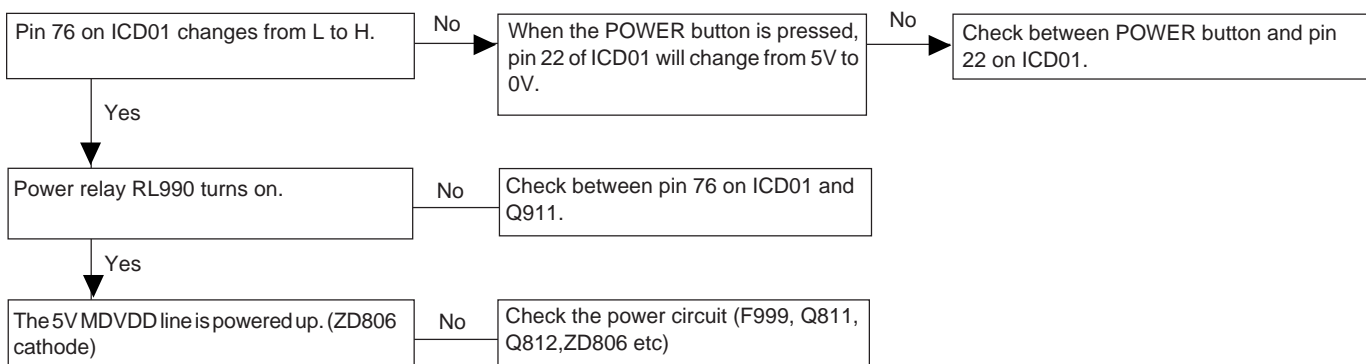


• Slide servo failure



POWER SUPPLY SECTION

• Although the power is turned on, the device does not turn on.



FUNCTION TABLE OF IC

IC1 VHiLA9235M/-1:Servo Amp. (LA9235M)

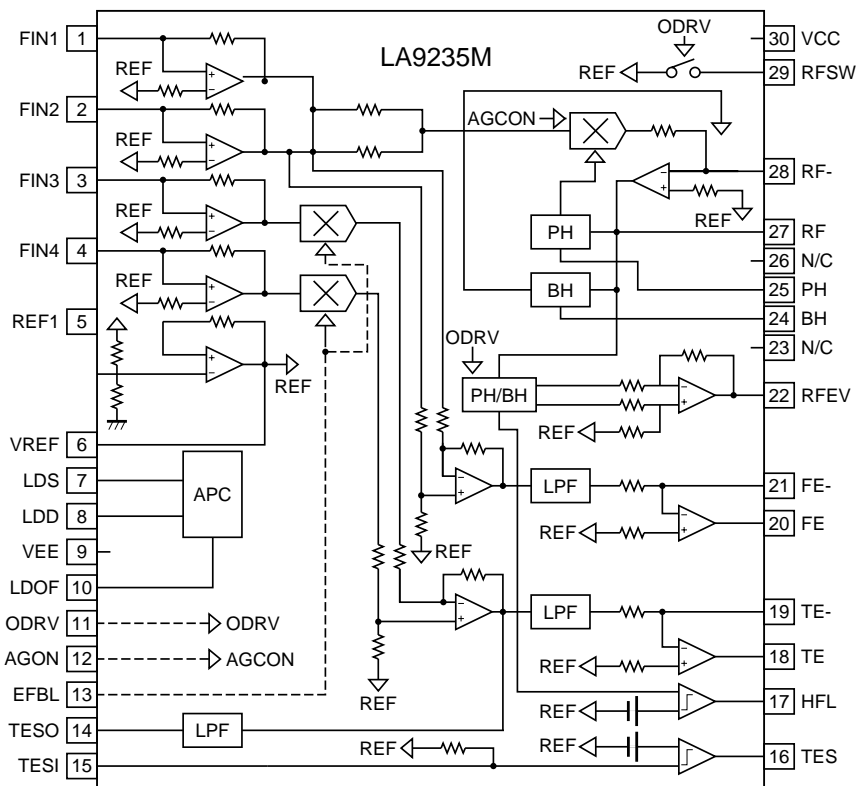


Figure 66-1 BLOCK DIAGRAM OF IC

IC2 VHiLC78640E-1:Servo/Signal Control (LC78640E) (1/3)

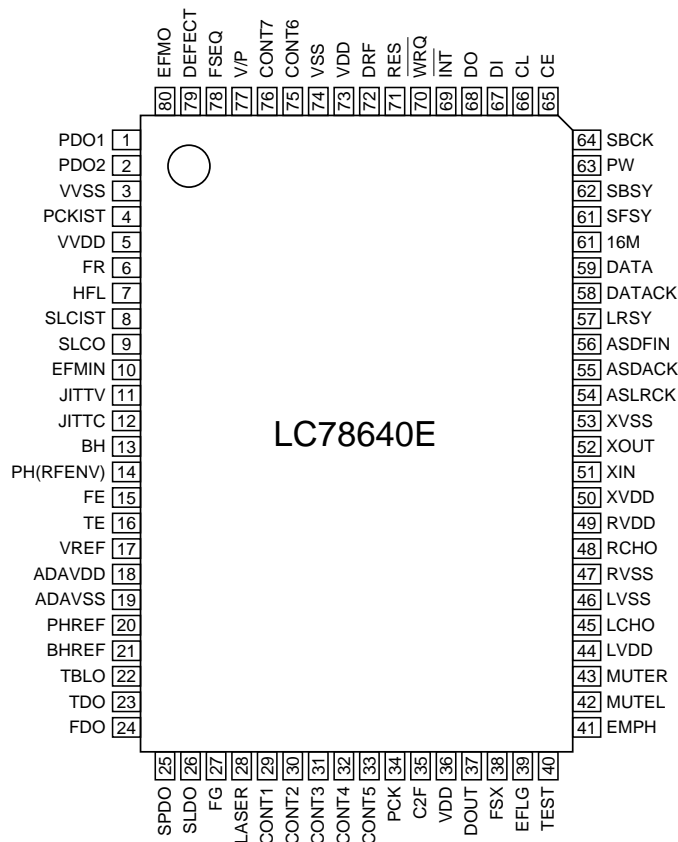


Figure 66-2 BLOCK DIAGRAM OF IC

IC2 VHiLC78640E-1: Servo/Signal Control (LC78640E) (2/3)

Pin No.	Terminal Name	Input/Output	Setting in Reset	Function	
1	PDO1	Output	—	For PULL	Phase-comparison output terminal for built-in VOC control.
2	PDO2	Output	—		Phase-comparison output terminal for built-in VOC control. Rough servo : OFF, phase servo : ON.
3	VVSS	—	—		Ground terminal for built-in VCO.
4	PCKIST	AI	—		Resistor terminal for setting the PDO output current.
5	VVDD	—	—		Power terminal for built-in VCO.
6	FR	AI	—		Resistor terminal for setting the VCO frequency range.
7	HFL	Input	—	Mirror detection signal input terminal.	
8	SLCIST	AI	—	For slice level control	Resistance connection terminal for current adjustment of SLCO output.
9	SLCO	Output	—		Control output.
10	EFMIN	Input	—		EFM signal input terminal.
11*	JITTV	Output	Unfixed	Jitter detection/monitor terminal.	
12	JITTC	Output	—	Jitter detection/adjustment terminal.	
13	BH	Input	—	BH signal input terminal. A/D input.	
14	PH(RFENV)	Input	—	PH signal or RFENV signal input terminal. A/D input.	
15	FE	Input	—	FE signal input terminal. A/D input.	
16	TE	Input	—	TE signal input terminal. A/D input.	
17	VREF	Input	—	VREF signal input terminal. A/D input.	
18	ADAVDD	—	—	AD for servo, D/A power terminal.	
19	ADAVSS	—	—	AD for servo, D/A ground terminal.	
20*	PHREF	Output	(1/2VDD)	PH reference output terminal. D/A output.	
21*	BHREF	Output	(1/2VDD)	BH reference output terminal. D/A output.	
22	TBLO	Output	(1/2VDD)	Output terminal for tracking balance. D/A output.	
23	TDO	Output	(1/2VDD)	Output terminal for tracking control. D/A output.	
24	FDO	Output	(1/2VDD)	Output terminal for focus control. D/A output.	
25	SPDO	Output	(1/2VDD)	Output terminal for spindle control. D/A output.	
26	SLDO	Output	(1/2VDD)	Output terminal for sled control. D/A output.	
27	FG	Input	—	FG signal input terminal. (When not used,connect to 0V)	
28	LASER	Output	L	LASER ON/OFF control terminal.	
29	CONT1	In/Output	Input mode	General purpose input/output terminal 1.	Controlled with serial data command from microcomputer. When not used, set it as the input terminal and open it by connecting to 0V, or set it as the output terminal and open it.
30	CONT2	In/Output	Input mode	General purpose input/output terminal 2.	
31	CONT3	In/Output	Input mode	General purpose input/output terminal 3.	
32*	CONT4	In/Output	Input mode	General purpose input/output terminal 4.	
33*	CONT5	In/Output	Input mode	General purpose input/output terminal 5.	
34*	PCK	Output	H	Clock monitor terminal for EFM data replay. 4.3218MHz as phase clock.	
35*	C2F	Output	H	C2 flag output terminal.	
36	VDD	—	—	Power terminal of digital system.	
37	DOUT	Output	L	Output terminal of digital OUT. (EIAJ format)	
38*	FSX	Output	L	Output terminal of synchronous signal of 7.35kHz divided from quartz oscillation.	
39*	EFLG	Output	L	C1,C2 correct monitor terminal.	
40	TEST	Input	—	Input terminal for test. Surely connected to 0V.	
41*	EMPH	In/Output	Input mode	Emphasis terminal. After resetting, it is configured as an input terminal. It can be controlled from the outside. It is also becomes a emphasis monitor terminal under command control.	
42*	MUTEL	Output	H	Mute output terminal for L channel.	
43*	MUTER	Output	H	Mute output terminal for R channel.	

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC2 VHiLC78640E-1:Servo/Signal Control (LC78640E) (3/3)

Pin No.	Terminal Name	Input/Output	Setting in Reset	Function	
44	LVDD	–	–	L channel	Power terminal for L channel.
45	LCHO	Output	1/2VDD	D/A converter	L channel output terminal.
46	LVSS	–	–		Ground terminal for L channel. Surely connected to 0V.
47	RVSS	–	–	R channel	Ground terminal for R channel. Surely connected to 0V.
48	RCHO	OUTPUT	1/2VDD	D/A converter	R channel output terminal.
49	RVDD	–	–		Power terminal for R channel.
50*	XVDD	–	–	For quartz oscillation	Power terminal for quartz oscillation.
51*	XIN	Input	Oscillation		Ground terminal of 16.9344MHz quartz oscillation.
52*	XOUT	Output	Oscillation		
53*	XVSS	–	–		Ground terminal for quartz oscillation. Surely connected to 0V.
54	ASLRCK	Input	–	For anti shock mode	L/R clock input terminal. (When not used,connect to 0V)
55	ASDACK	Input	–		Bit clock input terminal. (When not used,connect to 0V)
56	ASDFIN	Input	–		L/R channel data input terminal. (When not used,connect to 0V)
57	LRSY	Output	L	For digital data output	L/R clock output terminal.
58	DATAACK	Output	L		Bit clock output terminal.
59	DATA	Output	L		L/R channel data output terminal.
60	16M	Output	Clock output		16.9344MHz output terminal.
61	SFSY	Output	L		Output terminal of synchronous signal of subcode frame. It drops when subcode stand by.
62	SBSY	Output	L		Output terminal of synchronous signal of subcode block.
63	PW	Output	L		Output terminal of subcodes P,A,R,S,T,U and W.
64	SBCK	Input	–		Clock input terminal to read subcode. (When not used,connect to 0V)
65	CE	Input	–	For microcomputer interface	Chip enable signal input terminal.
66	CL	Input	–		Data transmission clock input terminal.
67	DI	Input	–		Data input terminal.
68	DO	Output	L		Data output terminal.
69	INT	Output	H		Interruption signal output terminal.
70	WRQ	Output	H		Interruption signal output terminal.
71	RES	Input	–		Reset input terminal of LC78640. When turning on power, set it at "L".
72	DRF	Output	L		Focus ON detection terminal.
73	VDD5V	–	–		Power terminal for microcomputer interface.
74	VSS	–	–		Ground terminal of digital system. Surely connected to 0V.
75*	CONT6	In/Output	Input mode	General purpose input/output terminal 6.	Controlled with serial data command from microcomputer. When not used, set it as the input terminal and open it by connecting to 0V, or set it as the output terminal and open it.
76*	CONT7	In/Output	Input mode	General purpose input/output terminal 7.	
77*	V/ *P	Output	H		Monitor output terminal for automatic switch of rough servo/phase control. "H" for rough servo, and "L" for phase servo.
78*	FSEQ	Output	L		Output terminal synchronous signal detection. "H" is output when synchronous signal detected by EFM signal matches synchronous signal internally generated.
79	DEFECT	In/Output	Input mode		Defect terminal. After resetting, it is configured as an input terminal. It can be controlled from the outside. It also becomes a defect monitor terminal under command control
80*	EFMO	Output	Unfixed		EFM signal output terminal.

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

Be sure to supply the same potential to each power terminal. (VVDD,ADAVDD,VDD,LVDD,RVDD,XVDD)

Terminal witch is controlled by the power terminal (VDD5V) for a microcomputer interface :

CE (65pin), CL (66pin), DI (67pin), DO (68pin), INT (69pin), WRQ (70pin), RES (71pin), DRF (72pin),

CONT6 (75pin), CONT7 (76pin)

IC3 VHiLA6548// -1: Focus/Tracking/Spin/Sled Driver (LA6548)

Pin No.	Terminal Name	Function
1	VCC	Power supply. (pin24 and short)
2	MUTE	ON/OFF for all CH output.
3*	VIN1	Channel 1 input terminal.
4	VG1	Channel 1 input terminal. (gain control)
5	VO1+	Channel 1 output terminal. (non-inverted)
6	VO1-	Channel 1 output terminal. (inverted)
7	VO2-	Channel 2 output terminal. (inverted)
8	VO2+	Channel 2 output terminal. (non-inverted)
9	VG2	Channel 2 input terminal. (gain control)
10*	VIN2	Channel 2 input terminal.
11	REG-OUT	Connect the external PNP transistor collector here. 3.3 VREG output.
12	REG-IN	Connect the external PNP transistor base here.
13*	RESET	Reset output.
14*	CD	Reset output delay time setting. (externally installed capacitor)
15*	VIN3	Channel 3 input terminal.
16	VG3	Channel 3 input terminal. (gain control)
17	VO3+	Channel 3 output terminal. (non-inverted)
18	VO3-	Channel 3 output terminal. (inverted)
19	VO4-	Channel 4 output terminal. (inverted)
20	VO4+	Channel 4 output terminal. (non-inverted)
21	VG4	Channel 4 input terminal. (gain control)
22*	VIN4	Channel 4 input terminal.
23	VREF	Apply the reference voltage.
24	VCC	Power supply. (pin1 and short)

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.
Set the ground (minimum potential) at the center frame.

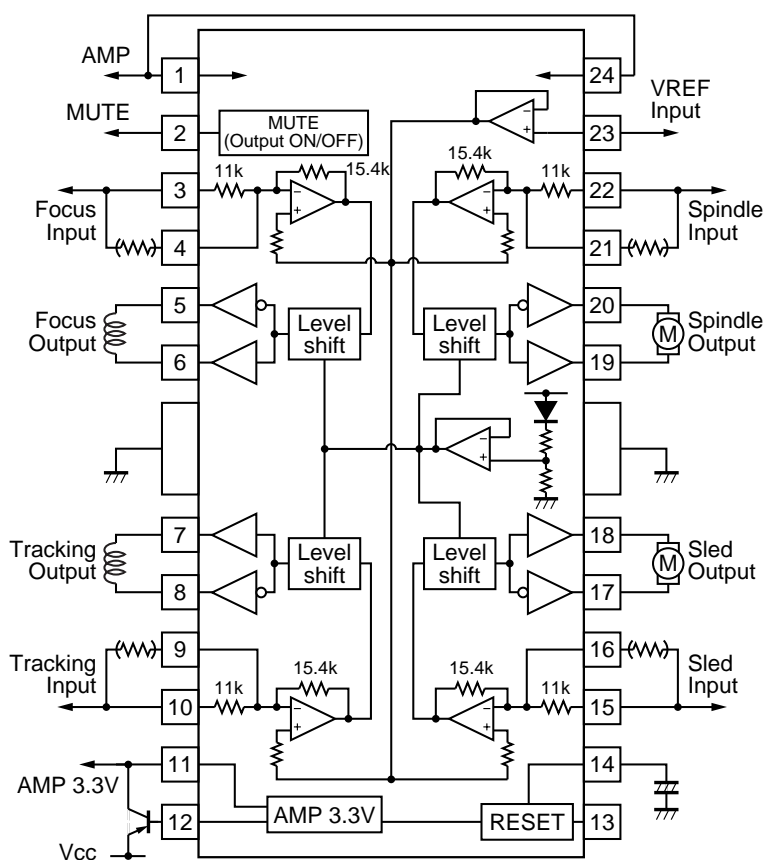


Figure 69 BLOCK DIAGRAM OF IC

ICD01 RH-iX0288AWZZ: System Microcomputer/FL Driver (iX0288AW) (1/2)

Pin No.	Terminal Name	Port Name	Input/Output	Function
1	CD_CE	P16	Output	Serial control chip enable for CD DSP.
2	CD_INT	P17	Input	Serial control interruption for CD DSP.
3	CD_WRQ	P30	Input	Serial control write request for CD DSP.
4	CD_DRF	P31	Input	RF detection.
5	CD_LID_SW	P32	Input	CD lid open/close detection. "L" : CLOSE "H" : OPEN.
6	CD_PUIN	P33	Input	Pick position detection. "L" : INNER RADIUS.
7	PROGRAM	P34	Input	Program switch. "L" : PROGRAM MODE.
8	NC	P35	Input	Connection GND.
9	NC	P36	Input	Connection GND.
10	POWER	P37	Output	Power for set switch output "H" : ON.
11	RESET	RES	Input	System reset input.
12	NC	AN10	Input	Connection GND.
13	AMP_HPSW	AN11	Input	Headphone switch input. "L" : HEADPHONE ON.
14	VSS	VSS1	–	GND.
15	CF_IN	CF1	Input	Main clock quarts 8.38MHz.
16	CF_OUT	CF2	Output	Main clock quarts 8.38MHz.
17	VDD	VDD1	–	+ Power.
18	AMP_TEMP	AN0	Input	AMP. temperature detection input.
19	AMP_LEVEL	AN1	Input	AMP. signal level detection input.
20	TU_SM	AN2	Input	TUNER signal meter input.
21	SY_DEST	AN3	Input	TUNER destination setting.
22	KEY1	AN4	Input	Operation key input 0 ~ 9.
23	KEY2	AN5	Input	Operation key input 10 ~ 18.
24	KEY3	AN6	Input	Operation key input 19 ~ 27.
25*	NC	P87	Input	Connection GND.
26	SYS_STOP	INT0	Input	System power failure detection input.
27	NC	P71	Input	Connection GND.
28	MD_DSTB	INT2	Input	Data strobe for serial data.
29	REM_IN	INT3	Input	Remote control input.
30	G1	T0	Output	Fluorescent grid drive.
31	G2	T1	Output	Fluorescent grid drive.
32	G3	T2	Output	Fluorescent grid drive.
33	G4	T3	Output	Fluorescent grid drive.
34	G5	T4	Output	Fluorescent grid drive.
35	G6	T5	Output	Fluorescent grid drive.
36	G7	T6	Output	Fluorescent grid drive.
37	G8	T7	Output	Fluorescent grid drive.
38	G9	T8	Output	Fluorescent grid drive.
39	G10	T9	Output	Fluorescent grid drive.
40	G11	T10	Output	Fluorescent grid drive.
41	G12	T11	Output	Fluorescent grid drive.
42	G13	T12	Output	Fluorescent grid drive.
43	S21	S13	Output	Fluorescent segment drive.
44	S20	S14	Output	Fluorescent segment drive.
45	S19	S15	Output	Fluorescent segment drive.
46	VDD-F	VDD3	–	+Power for fluorescent drive.
47	S18	S16	Output	Fluorescent segment drive.
48	S17	S17	Output	Fluorescent segment drive.
49	S16	S18	Output	Fluorescent segment drive.
50	S15	S19	Output	Fluorescent segment drive.

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

ICD01 RH-iX0288AWZZ: System Microcomputer/FL Driver (iX0288AW) (2/2)

Pin No.	Terminal Name	Port Name	Input/Output	Function
51	VP	VP	–	– Power for fluorescent drive. –30V
52	S14	S20	Output	Fluorescent segment drive.
53	S13	S21	Output	Fluorescent segment drive.
54	S12	S22	Output	Fluorescent segment drive.
55	S11	S23	Output	Fluorescent segment drive.
56	S10	S24	Output	Fluorescent segment drive.
57	S9	S25	Output	Fluorescent segment drive.
58	S8	S26	Output	Fluorescent segment drive.
59	S7	S27	Output	Fluorescent segment drive.
60	S6	S28	Output	Fluorescent segment drive.
61	S5	S29	Output	Fluorescent segment drive.
62	S4	S30	Output	Fluorescent segment drive.
63	S3	S31	Output	Fluorescent segment drive.
64	S2	S32	Output	Fluorescent segment drive.
65	S1	S33	Output	Fluorescent segment drive.
66	VOL_UP	PE2	Input	Volume jog UP input .
67	VOL_DWN	PE3	Input	Volume jog DOWN input .
68	DEMO	PE4	Input	DEMO setting input. "L" : DEMO.
69	NC	PE5	Input	Connection GND.
70	NC	PE6	Input	Connection GND.
71	NC	PE7	Input	Connection GND.
72	VDD-F	VDD4	–	Power for Fluorescent drive.
73	NC	PF0	Input	Connection GND.
74	SURROUND	PF1	Output	Surround mode output. "H" : SURROUND ON.
75	EQ_VOCAL	PF2	Output	Equalizer gain control. "L" : VOCAL.
76	FL_POWER	PF3	Output	Power for display output. "H" : POWER ON.
77	TIMER_LED	PF4	Output	Timer stand by LED output. "H" : ON.
78	TU_DI	PF5	Input	Data input terminal for CCB serial control.
79	SYS_MUTE	PF6	Output	System mute output. "H" : MUTE ON.
80	–	PF7	Output	Power failure back up output.
81	MD_LOADSW	PG0	Input	Loading switch detection input.
82	CD_RESET	PG1	Output	DSP reset output. "L" : RESET.
83	AMP_FAN	PG2	Output	Cooling fan output. "H" : MOTOR ON.
84	AMP_MUTE	PG3	Output	Speaker AMP. stand by. "L" : STAND BY.
85	TU_CE	PO0	Output	Chip enable for CCB serial control.
86*	NC	PO1	Input	Connection GND.
87	TU_CL	PO2	Output	Clock output terminal for CCB/APRO serial control.
88	TU_DO	PO3	Output	Data output terminal for CCB/APRO serial control.
89	VSS	VSS2	–	GND.
90	VDD	VDD2	–	+Power.
91	MD_RESET	PO4	Output	Unit reset output. "H" : RESET.
92	MD_ST	PO5	Output	On -synchronize output.
93	MD_SERCH	PO6	Output	MD search output.
94	MD_VLOAD	PO7	Output	Loading power switch.
95	MD_KDAT	SO0	Output	KEY DATA output terminal for serial control.
96	MD_MDDAT	SI0	Input	MD DATA input terminal for serial control.
97	MD_DSCK	SCK0	Output	CLOCK output terminal for serial control.
98	CD_SO	SO1	Output	DATA output terminal for serial control.
99	CD_SI	SI1	Input	DATA input terminal for serial control.
100	CD_CL	SCK1	Output	DATA output terminal for serial control.

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

ICP11 VHiM62439SP-1: Audio Processor (M62439SP)

Pin No.	Terminal Name	Function
1	REC OUT	Channel 1 REC OUT terminal. Useable for spare input terminal.
2	IN A1	
3	IN B1	
4	IN C1	
5	IN D1	
6	TONEH1	Channel 1 treble frequency control terminal.
7	TONEL1	Channel 1 bass frequency , gain control terminal.
8	OUT1	Channel 1 output terminal.
9	GND	GND.
10	VDD	+ Power.
11	CONT	Microcomputer data input terminal.
12	VSS	– Power.
13	OUT1	Channel 2 output terminal.
14	TONEL2	Channel 2 bass frequency , gain control terminal.
15	TONEH2	Channel 2 treble frequency control terminal.
16	IN A2	Channel 2 input terminal.
17	IN B2	
18	IN C2	
19	IN D2	
20	REC OUT	Channel 1 REC OUT terminal. Useable for spare input terminal.

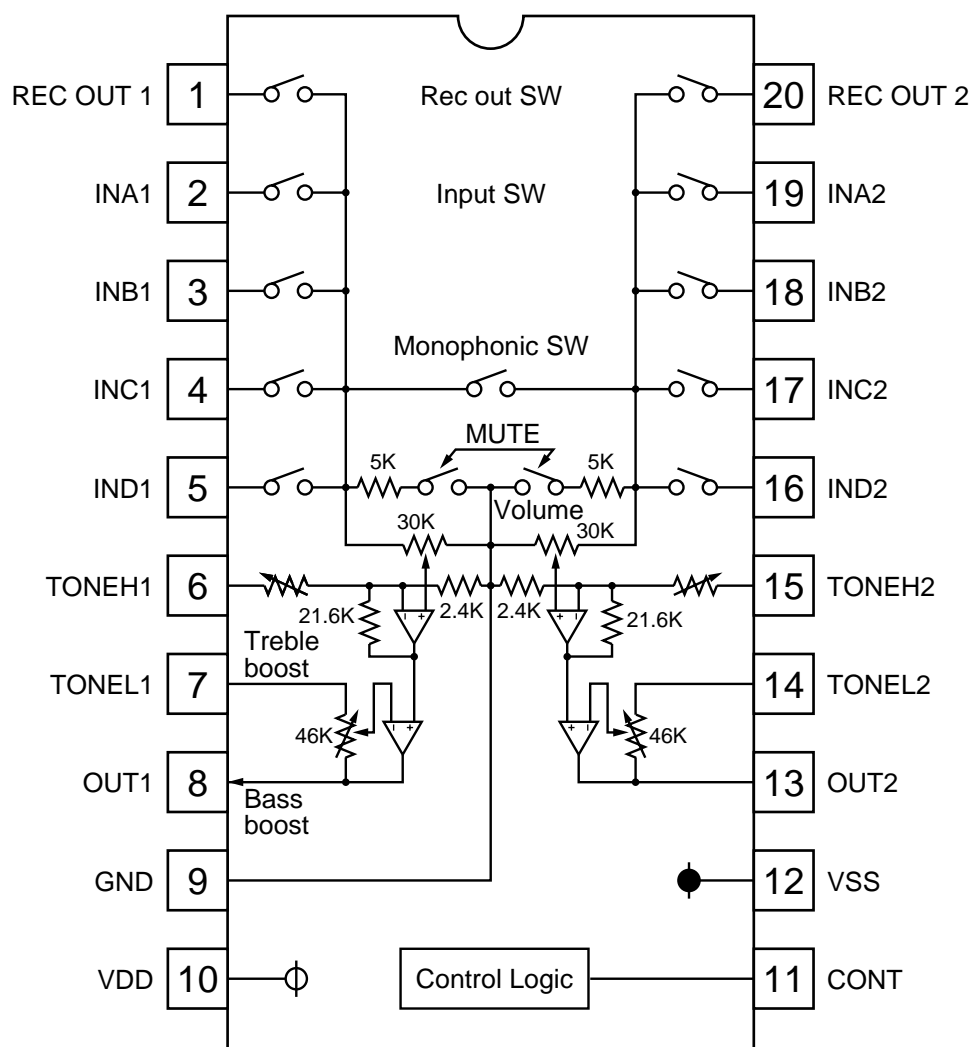


Figure 72 BLOCK DIAGRAM OF IC

ICP12 VHiLA2610// -1: Surround (LA2610)

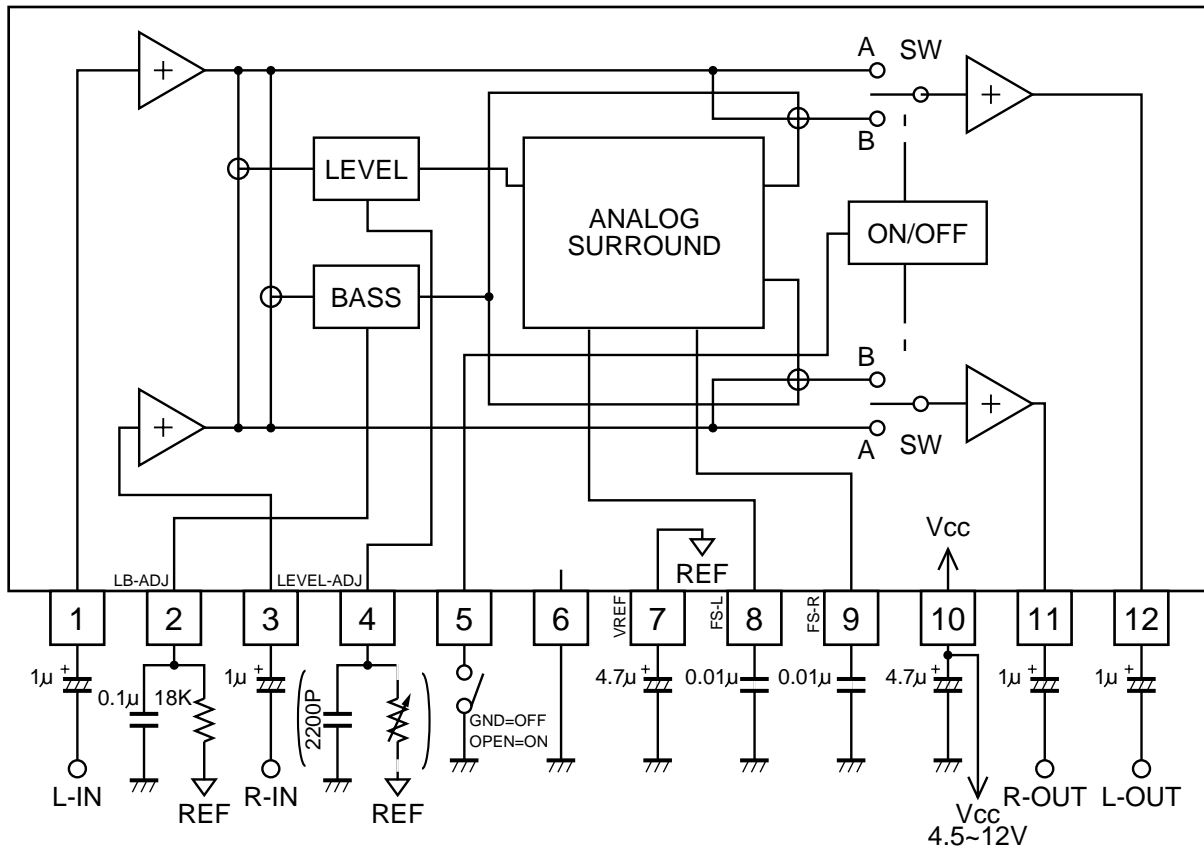


Figure 73-1 BLOCK DIAGRAM OF IC

FLD01 VVKBJ695GNK-1: FL Display

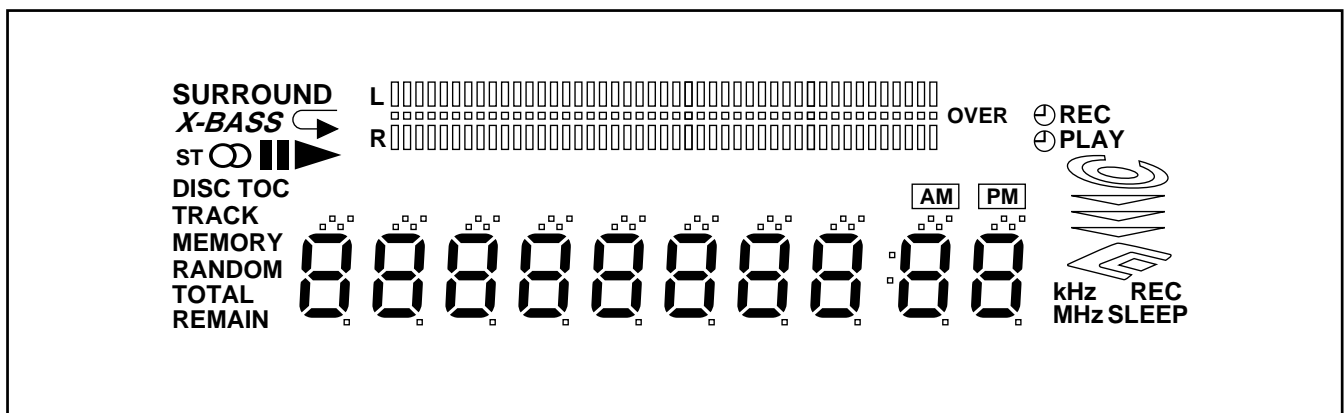


Figure 73-2 FL DISPLAY

SHARP PARTS GUIDE

MODEL MD-M3

MD-M3 MD micro System consisting of MD-M3(main unit) and CP-M3(speaker system).

MODEL MD-M1

MD-M1 MD micro System consisting of MD-M1(main unit) and CP-M1(speaker system).

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following information.

- | | |
|-----------------|----------------|
| 1. MODEL NUMBER | 2. REF. No. |
| 3. PART NO. | 4. DESCRIPTION |

★ MARK: SPARE PARTS-DELIVERY SECTION

For U.S.A. only

Contact your nearest SHARP Parts Distributor to order.

For location of SHARP Parts Distributor,
Please call Toll-Free;
1-800-BE-SHARP

Explanation of capacitors/resistors parts codes

Capacitors

VCC Ceramic type
VCK Ceramic type
VCT Semiconductor type
VC •• MF Cylindrical type (without lead wire)
VC •• MN Cylindrical type (without lead wire)
VC •• TV Square type (without lead wire)
VC •• TQ Square type (without lead wire)
VC •• CY Square type (without lead wire)
VC •• CZ Square type (without lead wire)
VC J .. The 13th character represents capacity difference.
("J" $\pm 5\%$, "K" $\pm 10\%$, "M" $\pm 20\%$, "N" $\pm 30\%$,
"C" ± 0.25 pF, "D" ± 0.5 pF, "Z" $+80-20\%$.)

If there are no indications for the electrolytic capacitors, error is $\pm 20\%$.

Resistors

VRD Carbon-film type
VRS Carbon-film type
VRN Metal-film type
VR •• MF Cylindrical type (without lead wire)
VR •• MN Cylindrical type (without lead wire)
VR •• TV Square type (without lead wire)
VR •• TQ Square type (without lead wire)
VR •• CY Square type (without lead wire)
VR •• CZ Square type (without lead wire)
VR J .. The 13th character represents error.
("J" $\pm 5\%$, "F" $\pm 1\%$, "D" $\pm 0.5\%$.)

If there are no indications for other parts, the resistors are $\pm 5\%$ carbon-film type.

"CAUTION: For continued protection against risk of fire, replace only with same type F995:4A/125V, F996, F997:3.15A/125V, F998:800mA/125V, F999:1.6A/125V fuse."

NOTE:

Parts marked with "⚠" are important for maintaining the safety of the set.
Be sure to replace parts with specified ones for maintaining the safety and performance of the set.

MD-M3/M1

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
INTEGRATED CIRCUITS				
IC1	VHILA9235M/-1	J	AQ	Servo Amp.,LA9235M
IC2	VHILC78640E/-1	J	AW	Servo/Signal Control,LC78640E
IC3	VHILA6548//-1	J	AN	Focus/Tracking/Spin/Sled Driver,LA6548
IC302	VHILC72131/-1	J	AP	PLL Controller,LC72131
IC303	VHILA1832S/-1	J	AN	FM IF Det./FM Mpx./ AM IF, LA1832S
IC901	VHIXC61CN40-1	J	AE	Reset,XC61CN40
IC902	VHIAN78L05/-1	J	AE	Constant Voltage Regulator, AN78L05
IC1101	VHIIR3R55//-1	J	AQ	RF Signal,Processor,IR3R55
IC1201	VHILR376484-1	J	BC	ATrac Encoder/Decoder, LR376484
IC1202	RH-IX2474AFZZ	J	BF	4Mbit D-RAM,IX2474AF
IC1300	VHI74ACT02F/-1	J	AF	Head Driver,74ACT02F
IC1401	RH-IX0290AWZZ	J	BB	MD System Microcomputer, IX0290AW
IC1402	VHIS29294A/-1	J	AH	EEPROM,S29294A
IC1601	VHIBA5984FP-1	J	AR	Motor Driver,BA5984FP
IC1701	VHIUDA1344/-1	J	AY	AD/DA Converter,UDA1344
IC1702	VHINJM431U/-1	J	AE	Regulator,NJM431U
IC1801	VHIXC62EP32-1	J	AE	Regulator,XC62EP32
ICD01	RH-IX0288AWZZ	J	AP	System Microcomputer/FL Driver,IX0288AW
ICP11	VHIM62439SP-1	J	AG	Audio Processor,M62439SP
ICP12	VHILA2610/-1	J	AM	Surround,LA2610
ICP81	VHINJM4565D-1	J	AC	Rec.Amp.,NJM4565D
ICV11	VHINJM4565D-1	J	AC	Headphone Amp.,NJM4565D
ICX11	VHILA4451/-1	J	AN	Power Amp.,LA4451

TRANSISTORS

Q51	VSKTA1266GR-1	J	AB	Silicon,NPN,KTA1266 GR
Q52	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q61	VSKTA1271Y/-1	J	AC	Silicon,NPN,KTA1271 Y
Q62	VSKTC3203Y/-1	J	AC	Silicon,NPN,KTC3203 Y
Q91	VSKRC107M/-1	J	AC	Digital,NPN,KRC107 M
Q92	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q93	VSKRC107M/-1	J	AC	Digital,NPN,KRC107 M
Q351	VSKRC104M/-1	J	AC	Digital,NPN,KRC104 M
Q360	VSKTA1266GR-1	J	AB	Silicon,NPN,KTA1266 GR
Q361	VSKRC107M/-1	J	AC	Digital,NPN,KRC107 M
Q371	VSHSA1015GR-1	J	AC	Silicon,NPN,HSA1015 GR
Q801,802	VS2SD2012/-1	J	AD	Silicon,NPN,2SD2012
Q803	VSHSC1815GR-1	J	AC	Silicon,NPN,HSC1815 GR
Q808	VS2SB1375/-1	J	AF	Silicon,NPN,2SB1375
Q809	VS2SD2012/-1	J	AD	Silicon,NPN,2SD2012
Q810	VSHSC1815GR-1	J	AC	Silicon,NPN,HSC1815 GR
Q811	VS2SD2012/-1	J	AD	Silicon,NPN,2SD2012
Q812	VSHSC1815GR-1	J	AC	Silicon,NPN,HSC1815 GR
Q813	VSKRC107M/-1	J	AC	Digital,NPN,KRC107 M
Q904	VSKRC107M/-1	J	AC	Digital,NPN,KRC107 M
Q911	VSHSC1815GR-1	J	AC	Silicon,NPN,HSC1815 GR
Q951	VSKTA1023Y/-1	J	AE	Silicon,NPN,KTA1023 Y
Q1300	VS2SK2909//-1	J	AE	FET,2SK2909
Q1301	VS2SK1473//-1	J	AF	FET,2SK1473
Q1302	VS2SK2909//-1	J	AE	FET,2SK2909
Q1303	VS2SK1473//-1	J	AF	FET,2SK1473
Q1400	VS2RNC1404//-1	J	AB	Digital,NPN,RNC1404
Q1401	VS2RNC1404//-1	J	AB	Digital,NPN,RNC1404
Q1402	VS2RNC1404//-1	J	AC	Digital,NPN,RNC1404
Q1403	VS2RNC1404//-1	J	AC	Digital,NPN,RNC1404
Q1500	VS2RNC1407//-1	J	AC	Digital,NPN,RNC1407
Q1700	VS2SC2412KR-1	J	AB	Silicon,NPN,2SC2412 KR
Q1701	VS2RNC1404//-1	J	AB	Digital,NPN,RNC1404
Q1702	VS2SA1162G/-1	J	AB	Silicon,NPN,2SA1162 G
Q1800	VS2RNC1407//-1	J	AC	Digital,NPN,RNC1407
Q1801	VS2SA1162G/-1	J	AB	Silicon,NPN,2SA1162 G
Q1802	VS2RNC1407//-1	J	AC	Digital,NPN,RNC1407
Q1803	VS2RNC1406//-1	J	AB	Digital,NPN,RN1406
Q1804,1805	VS2SA1314C/-1	J	AD	Silicon,NPN,2SA1314 C
Q1806	VS2RNC1406//-1	J	AB	Digital,NPN,RN1406
QD02-04	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
QP15,16	VSKRC104M/-1	J	AC	Digital,NPN,KRC104 M
QP17	VSKRC107M/-1	J	AC	Digital,NPN,KRC107 M
QR11	VSKRA107M/-1	J	AE	Digital,NPN,KRA107 M
QX11-14	VSHSC1815GR-1	J	AC	Silicon,NPN,HSC1815 GR
QX51	VSHSC1815GR-1	J	AC	Silicon,NPN,HSC1815 GR
QX52	VSKTA1270Y/-1	J	AD	Silicon,NPN,KTA1270 Y
QX53	VSKRC107M/-1	J	AC	Digital,NPN,KRC107 M

DIODES

D60	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D93	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D301-304	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D351,352	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D801,802	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D806	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D810	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D901,902	VHD1N4004S/-1	J	AB	Silicon,1N4004S
D903-906	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D907	VHD1N4004S/-1	J	AB	Silicon,1N4004S
D911	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D915,916	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
△ D951,952	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D953	VHD1N4004S/-1	J	AB	Silicon,1N4004S
D955	VHD1N4004S/-1	J	AB	Silicon,1N4004S
△ D991-994	VHD1N4004S/-1	J	AB	Silicon,1N4004S
D1300,1301	VHDSB0209CP-1	J	AC	Silicon,SB0209CP
D1401	VHDSB00703Q-1	J	AB	Silicon,SB00703Q
DD01,02	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
DP11	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
DP22,23	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
DR11,12	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
DR20,21	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
DX11	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
DX13-16	VHD1N4004S/-1	J	AB	Silicon,1N4004S
DX17-19	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
DX51,52	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
DX56	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
LEDD01	VHPSLI342UCB1	J	AC	LED,Red,SLI342UCB
VD301	VHCKV1236Z23F	J	AS	Variable Capacitance, KV1236Z23F
ZD60	VHEDZ5R1BSA-1	J	AB	Zener,5.1V,DZ5.1A
ZD61	VHEDZ5R6BSB-1	J	AC	Zener,5.6V,DZ5.6B
ZD351	VHEDZ5R1BSB-1	J	AC	Zener,5.1V,DZ5.1B
ZD352	VHEDZ3R9BSB-1	J	AC	Zener,3.9V,DZ3.9B
ZD801	VHEDZ130BSA-1	J	AC	Zener,13V,DZ13A
ZD802	VHEDZ130BSC-1	J	AB	Zener,13V,DZ13C
ZD803	VHEDZ5R1BSB-1	J	AC	Zener,5.1V,DZ5.1B
ZD804	VHEDZ130BSA-1	J	AC	Zener,13V,DZ13A
ZD805	VHEDZ8R2BSB-1	J	AB	Zener,8.2V,DZ8.2B
ZD806	VHEDZ8R2BSA-1	J	AB	Zener,8.2V,DZ8.2A
ZD807	VHEDZ6R2BSC-1	J	AB	Zener,6.2V,DZ6.2C
ZD951	VHEDZ300BSC-1	J	AB	Zener,30V,DZ30C
ZD952	VHEDZ5R6BSB-1	J	AC	Zener,5.6V,DZ5.6B
ZDP11,12	VHEDZ2R7BSA-1	J	AB	Zener,2.7V,DZ2.7A
ZDX52	VHEDZ6R2BSB-1	J	AC	Zener,6.2V,DZ6.2B

FILTERS

CF51-53	VCKYBT1HB101K	J	AA	100 pF,50V
CF302	RFILF0124AFZZ	J	AD	FM IF
CF351	RFILF0003AWZZ	J	AK	FM IF
CF352	RFILA0009AWZZ	J	AE	AM IF

TRANSFORMERS

T302	RCILA1064AFZZ	J	AD	AM Antenna
T306	RCILB1074AFZZ	J	AC	OSC,AM
T351	RCILI0011AWZZ	J	AD	AM IF
△ T990	RTRNP0266AWZZ	J	AQ	Power Transformer,Sub
△ T991	RTRNP0263AWZZ	J	BC	Power Transformer,MAIN

COILS

L61	VP-XHR82K0000	J	AC	0.82 μH
L62	VP-XH2R2K0000	J	AB	2.2 μH,Choke
L342	VP-DH2R2K0000	J	AB	2.2 mmH,Peaking
L351,352	VP-DH101K0000	J	AB	100 μH,Choke
L353	VP-DH102K0000	J	AB	1 mH,Choke
△ L990	RCILZ0019AWZZ	J	AE	Line Filter
L1100	VPBNNR47K0000	J	AC	0.47 μH
L1101	VPBNN100K0000	J	AC	10 μH
L1200	VPBNN4R7K0000	J	AC	4.7 μH
L1201	VPBNNR47K0000	J	AC	0.47 μH
L1300,1301	VP-NM470K0000	J	AC	47 μH
L1501	RCILZ0016AWZZ	J	AD	1 μH
L1503	VPBNN4R7K0000	J	AC	4.7 μH
L1600	RCILZ0016AWZZ	J	AD	1 μH
L1700,1701	VPBNN100K0000	J	AC	10 μH
LD1	VP-DH2R2K0000	J	AB	2.2 mmH,Peaking

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
LV91	VP-XH2R2K0000	J	AB	2.2 μH,Choke
R1535~1538	RCILZ2134SCZZ	J		Impeder,Z2134SC

VARIABLE RESISTORS

VR351	RVR-M0026AWZZ	J	AC	10 kohm (B),Semi-VR
VRR11	RVR-B0020AWZZ	J	AG	Volume,AUX Input Level

VIBRATORS

X351	92LCRSTL1425A	J	AF	Crystal,456 kHz
X352	RCRSP0002AWZZ	J	AH	Crystal,4.5 MHz
XD01	RCRSP0009AWZZ	J	AK	Crystal,8.3886 MHz
XL1	RCRSP0005AWZZ	J	AF	Crystal,16.934 MHz
XL1201	RCRSC0001AWZZ	J	AL	Crystal,33.8688 MHz

CAPACITORS

C5,6	VCEAZA1AW107M	J	AB	100 μF,10V,Electrolytic
C7	VCEAEA1VW106M	J	AB	10 μF,35V,Electrolytic
C8	VCIFYHA1HA104J	J	AB	0.1 μF,50V,Thin Film
C11	VCEAZA1AW107M	J	AB	100 μF,10V,Electrolytic
C12	VCIFYHA1HA104J	J	AB	0.1 μF,50V,Thin Film
C13	VCTYPA1CX103K	J	AA	0.01 μF,16V
C14	VCIFYHA1HA334J	J	AC	0.33 μF,50V,Thin Film
C16	VCCSPA1HL6R0D	J	AA	6 pF,50V
C17	VCTYBT1CX272M	J	AA	0.0027 μF,16V
C18	VCCSPA1HL1R0C	J	AA	1 pF,50V
C19	VCEAEA0JW107M	J	AC	100 μF,6.3V,Electrolytic
C20,21	VCIFYHA1HA104J	J	AB	0.1 μF,50V,Thin Film
C22	VCKYBT1HB101K	J	AA	100 pF,50V
C23	VCIFYHA1HA473J	J	AB	0.047 μF,50V,Thin Film
C24	VCEAEA1HW225M	J	AB	2.2 μF,50V,Electrolytic
C25	VCIFYHA1HA104J	J	AB	0.1 μF,50V,Thin Film
C26	VCIFYHA1HA473J	J	AB	0.047 μF,50V,Thin Film
C27	VCIFYHA1HA104J	J	AB	0.1 μF,50V,Thin Film
C28	VCEAZA1AW476M	J	AB	47 μF,10V,Electrolytic
C29,30	VCIFYHA1HA104J	J	AB	0.1 μF,50V,Thin Film
C31	VCEAEA0JW107M	J	AC	100 μF,6.3V,Electrolytic
C34	VCTYBT1EF223Z	J	AA	0.022 μF,25V
C35,36	VCCCBT1HH8R2K	J	AA	8.2 pF (CH),50V
C37	VCEAEA1AW476M	J	AB	47 μF,10V,Electrolytic
C38,39	VCTYBT1EF223Z	J	AA	0.022 μF,25V
C41	RC-EZ0004AWZZ	J	AD	3.3 μF,16V
C42	VCCSPU1HL680J	J	AA	68 pF,50V
C44	VCIFYHA1HA104J	J	AB	0.1 μF,50V,Thin Film
C45	VCEAZA1AW107M	J	AB	100 μF,10V,Electrolytic
C51	VCEAEA0JW476M	J	AB	47 μF,6.3V,Electrolytic
C52	VCTYBT1CY103M	J	AA	0.01 μF,16V
C53	VCKYBT1HB102K	J	AA	0.001 μF,50V
C54	VCEAZA1AW476M	J	AB	47 μF,10V,Electrolytic
C55	VCTYBT1CY103M	J	AA	0.01 μF,16V
C56	VCEAEA0JW337M	J	AD	330 μF,6.3V,Electrolytic
C57	VCTYBT1EF223Z	J	AA	0.022 μF,25V
C62	VCEAEA0JW107M	J	AC	100 μF,6.3V,Electrolytic
C64	VCEAZA1AW476M	J	AB	47 μF,10V,Electrolytic
C71	VCKYBT1HB101K	J	AA	100 pF,50V
C72	VCTYBT1CY103M	J	AA	0.01 μF,16V
C73~78	VCKYBT1HB101K	J	AA	100 pF,50V
C81	VCKYPA1HF223Z	J	AB	0.022 μF,50V
C82	VCTYBT1EF223Z	J	AA	0.022 μF,25V
C83	VCKYBT1HB102K	J	AA	0.001 μF,50V
C85	VCKYBT1HB102K	J	AA	0.001 μF,50V
C90	RC-EZ0004AWZZ	J	AD	3.3 μF,16V
C301,302	VCKYBT1HB102K	J	AA	0.001 μF,50V
C321	VCEAZA1AW107M	J	AB	100 μF,10V,Electrolytic
C330	VCCUMN1HJ100J	J	AA	10 pF (UJ),50V
C331	VCKYPA1HF473Z	J	AB	0.047 μF,50V
C332	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C334	VCCUMN1HJ180J	J	AA	18 pF (UJ),50V
C335	VCCCMN1HH180J	J	AA	18 pF (CH),50V
C336	VCKYMN1HB471K	J	AA	470 pF,50V
C337	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C340	VCKYBT1HB102K	J	AA	0.001 μF,50V
C341,342	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C343	VCCSMN1HL330J	J	AA	33 pF,50V
C345~347	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C350	VCKYPA1HF473Z	J	AB	0.047 μF,50V
C351	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C352	VCEAEA1VW106M	J	AB	10 μF,35V,Electrolytic
C353,354	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C355	VCCSMN1HL220J	J	AA	22 pF,50V

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
C356	VCKYMN1HB102K	J	AA	0.001 μF,50V
C357	VCEAEA1HW225M	J	AB	2.2 μF,50V,Electrolytic
C358	VCEAEA1HW105M	J	AB	1 μF,50V,Electrolytic
C361	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C362	VCEAEA1HW335M	J	AB	3.3 μF,50V,Electrolytic
C363	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C364	VCEAEA1VW106M	J	AB	10 μF,35V,Electrolytic
C365	VCTYPA1CX223K	J	AA	0.022 μF,16V
C366	VCKYMN1HB102K	J	AA	0.001 μF,50V
C367,368	VCEAEA1HW105M	J	AB	1 μF,50V,Electrolytic
C369	VCCSBT1HL270J	J	AA	27 pF,50V
C370~372	VCEAEA1HW105M	J	AB	1 μF,50V,Electrolytic
C373,374	VCTYPA1CX223K	J	AA	0.022 μF,16V
C380	VCEAEA1VW106M	J	AB	10 μF,35V,Electrolytic
C381	VCCCMN1HH120J	J	AA	12 pF (CH),50V
C382	VCCCMN1HH150J	J	AA	15 pF (CH),50V
C385	VCTYMN1CY103K	J	AA	0.01 μF,16V
C386	VCKYMN1HB331K	J	AA	330 pF,50V
C387	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C391	VCEAZA1CW476M	J	AB	47 μF,16V,Electrolytic
C392	VCKYMN1HB102K	J	AA	0.001 μF,50V
C393	VCEAZA1HW105M	J	AB	1 μF,50V,Electrolytic
C394	VCEAZA1CW476M	J	AB	47 μF,16V,Electrolytic
C395	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C396	VCEAZA1AW107M	J	AB	100 μF,10V,Electrolytic
C397	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C398	VCEAZA1AW107M	J	AB	100 μF,10V,Electrolytic
C399	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C801	VCEAZW1EW478M	J	AK	4700 μF,25V,Electrolytic
C802	VCEAZV1EW108M	J	AE	1000 μF,25V,Electrolytic
C803	VCEAEA1HW105M	J	AB	1 μF,50V,Electrolytic
C804	VCKYPA1HF223Z	J	AB	0.022 μF,50V
C805	VCEAZA1EW476M	J	AB	47 μF,25V,Electrolytic
C807	VCEAZA1EW476M	J	AB	47 μF,25V,Electrolytic
C808	VCKYPA1HF223Z	J	AB	0.022 μF,50V
C809	VCEAEA1VW106M	J	AB	10 μF,35V,Electrolytic
C810	VCKYPA1HF473Z	J	AB	0.047 μF,50V
C812	VCEAZA1EW476M	J	AB	47 μF,25V,Electrolytic
C813	VCKYPA1HF223Z	J	AB	0.022 μF,50V
C814	VCEAEA1VW106M	J	AB	10 μF,35V,Electrolytic
C815	VCEAZA1EW476M	J	AB	47 μF,25V,Electrolytic
C816	VCTYBT1EF223Z	J	AA	0.022 μF,25V
C817	VCEAEA1VW106M	J	AB	10 μF,35V,Electrolytic
C818	VCEAZA1EW476M	J	AB	47 μF,25V,Electrolytic
C819	VCTYBT1EF223Z	J	AA	0.022 μF,25V
C820	VCEAEA1VW106M	J	AB	10 μF,35V,Electrolytic
C901	VCEAZV1EW228M	J	AG	2200 μF,25V,Electrolytic
C902	VCEAEA1HW474M	J	AB	0.47 μF,50V,Electrolytic
C903	VCQYKA1HM473K	J	AB	0.047 μF,50V,Mylar
C905	VCEAEA1VW106M	J	AB	10 μF,35V,Electrolytic
C906	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C907	VCTYMN1CY103K	J	AA	0.01 μF,16V
C908	VCEAEA1HW475M	J	AB	47 μF,50V,Electrolytic
C909	VCTYMN1CY103K	J	AA	0.01 μF,16V
C910	VCEAZA1AW477M	J	AC	470 μF,10V,Electrolytic
C912	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C913	VCEAEA1AW107M	J	J	100 μF,10V,Electrolytic
C914	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C915	VCEAEA1VW106M	J	AB	10 μF,35V,Electrolytic
C916	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C951~954	VCQYKA1HM473K	J	AB	0.047 μF,50V,Mylar
C955	VCEAZA1HW107M	J	AC	100 μF,50V,Electrolytic
C958	VCEAZA1JW476M	J	AC	47 μF,63V,Electrolytic
C959	VCEAZA1HW476M	J	AB	47 μF,50V,Electrolytic
C960	VCEAZA1HW476M	J	AB	47 μF,50V,Electrolytic
C961	VCEAZA1VW107M	J	AC	100 μF,35V,Electrolytic
△C990	RC-KZ0093GEZZ	J	AG	0.0047 μF,250V
△C993,994	VCQYKA1HM473K	J	AB	0.047 μF,50V,Mylar
C1100	RC-KZ0003AWZZ	J	AE	4.7 μF,10V
C1101	VCKYTV0JB105K	J	AD	1 μF,6.3V
C1102	VCKYTV1CF105Z	J	AB	1 μF,16V
C1103	VCKYTV1HB273K	J	AA	0.027 μF,50V
C1104	VCKYTV1HB333K	J	AA	0.033 μF,50V
C1105	VCKYCY1HB332K	J	AA	0.0033 μF,50V
C1106	VCKYTV0JB105K	J	AD	1 μF,6.3V
C1107	VCKYCY1CB333K	J	AA	0.033 μF,16V
C1108	VCKYTV1CB474K	J	AC	0.47 μF,16V
C1109	VCKYTV0JB105K	J	AD	1 μF,6.3V
C1110	VCKYTV1HB472K	J	AA	0.0047 μF,50V
C1111	VCKYTV1CB474K	J	AC	0.47 μF,16V
C1112	VCCCY1HH331J	J	AA	330 pF (CH),50V
C1113~1117	VCCCY1HH271J	J	AA	270 pF (CH),50V

MD-M3/M1

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
C1118	VCKYTV1CF105Z	J	AB	1 μF,16V
C1119	VCKYTV0JB105K	J	AD	1 μF,6.3V
C1120	VCKYTV1HF103Z	J	AA	0.01 μF,50V
C1200	VCKYTV1CF105Z	J	AB	1 μF,16V
C1201	RC-KZ0002AWZZ	J	AE	10 μF,10V
C1202,1203	VCKYTV1CF105Z	J	AB	1 μF,16V
C1204	VCKYCY1CB473K	J	AA	0.047 μF,16V
C1205	VCKYTV1CF105Z	J	AB	1 μF,16V
C1206	VCKYTV1HB122K	J	AA	0.0012 μF,50V
C1207	VCKYTV1CF105Z	J	AB	1 μF,16V
C1208,1209	VCCCCY1HH120J	J	AA	12 pF (CH),50V
C1210	VCCCCY1HH220J	J	AA	22 pF (CH),50V
C1300	VCCCTV1HH121J	J	AA	120 pF (CH),50V
C1301	VCKYCY1CB273K	J	AA	0.027 μF,16V
C1302	RC-KZ0002AWZZ	J	AE	10 μF,10V
C1303	RC-KZ0003AWZZ	J	AE	4.7 μF,10V
C1304	RC-KZ0002AWZZ	J	AE	10 μF,10V
C1400,1401	VCKYCY1CB223K	J	AA	0.022 μF,16V
C1402	VCKYCY1HB681K	J	AA	680 pF,50V
C1403	VCKYCY1CB473K	J	AA	0.047 μF,16V
C1404	VCKYCY1CB223K	J	AA	0.022 μF,16V
C1405	VCKYCY1HB681K	J	AA	680 pF,50V
C1406	VCKYCY1CB223K	J	AA	0.022 μF,16V
C1407	VCKYCY1CB473K	J	AA	0.047 μF,16V
C1408	VCKYCY1CB223K	J	AA	0.022 μF,16V
C1409	VCKYCY1EF104Z	J	AA	0.1 μF,25V
C1410	VCKYTV1CF105Z	J	AB	1 μF,16V
C1411	VCCCTV1HH331J	J	AA	330 pF (CH),50V
C1500	VCCCTV1HH331J	J	AA	330 pF (CH),50V
C1501	VCKYTV1CF105Z	J	AB	1 μF,16V
C1503	VCKYCY1CB334K	J	AC	0.33 μF,16V
C1505,1506	VCCCCY1HH101J	J	AA	100 pF (CH),50V
C1508	VCKYCY1CB473K	J	AA	0.047 μF,16V
C1509	VCKYCY1CB473K	J	AA	0.047 μF,16V
C1511	VCCCCY1HH220J	J	AA	22 pF (CH),50V
C1512	VCCCCY1HH271J	J	AA	270 pF (CH),50V (MD-M1 Only)
C1513	VCCCCY1HH220J	J	AA	22 pF (CH),50V (MD-M3 Only)
C1600	VCKYTQ1CF105Z	J	AC	1 μF,16V
C1601	VCCSCY1HL821J	J	AA	820 pF,50V
C1602~1604	VCCSCY1HL821J	J	AA	820 pF,50V
C1606	RC-KZ0002AWZZ	J	AE	10 μF,10V
C1607	VCKYTV1CF105Z	J	AB	1 μF,16V
C1608	VCEAPS107AF1A	J	AD	100 μF,10V,Electrolytic
C1610	RC-KZ0003AWZZ	J	AE	4.7 μF,10V
C1611,1612	VCKYCY1HB822K	J	AA	0.0082 μF,16V
C1613	VCKYCY1HB152K	J	AA	0.0015 μF,50V
C1615	VCKYCY1HB152K	J	AA	0.0015 μF,50V
C1616	VCEAPS107AF1A	J	AD	100 μF,10V,Electrolytic
C1619	VCCCCY1HH331J	J	AA	330 pF (CH),50V
C1700,1701	VCEAPS476AF0G	J	AC	47 μF,4V,Electrolytic
C1702	VCKYCY1HB102K	J	AA	1000 pF,50V
C1703	VCKYCY1EF104Z	J	AA	0.1 μF,25V
C1704	VCEAPS476AF0G	J	AC	47 μF,4V,Electrolytic
C1705	VCKYCY1EF104Z	J	AA	0.1 μF,25V
C1706	VCKYTV1HF103Z	J	AA	0.01 μF,50V
C1707	VCKYTV1CF105Z	J	AB	1 μF,16V
C1708,1709	VCKYTV1HF103Z	J	AA	0.01 μF,50V
C1710	RC-EZ1620AFZZ	J	AC	10 μF,16V,Electrolytic
C1711	VCEAPS476AF0G	J	AC	47 μF,4V,Electrolytic
C1712	RC-EZ1620AFZZ	J	AC	10 μF,16V,Electrolytic
C1713	VCKYTV1HF103Z	J	AA	0.01 μF,50V
C1714	VCKYTV1CF105Z	J	AB	1 μF,16V
C1715	VCKYTV1CB104K	J	AA	0.1 μF,16V
C1716	VCEAPS476AF0G	J	AC	47 μF,4V,Electrolytic
C1750	VCCSCY1HL821J	J	AA	820 pF,50V
C1800	VCEAPS227AF0G	J	AC	220 μF,4V,Electrolytic
C1801	RC-KZ0002AWZZ	J	AE	10 μF,10V
C1802	RC-KZ0002AWZZ	J	AE	10 μF,10V
C1803	VCEAPS107AF1A	J	AD	100 μF,10V,Electrolytic
C1804	VCKYTQ1CF225Z	J	AB	2.2 μF,16V
C1805	VCKYTV1CF105Z	J	AB	1 μF,16V
CD2	VCTYBT1EF223Z	J	AA	0.022 μF,25V
CD3	VCEAZA1AW107M	J	AB	100 μF,10V,Electrolytic
CD4	VCTYMN1EF223Z	J	AA	0.022 μF,25V
CD5~7	VCEAZA1HW105M	J	AB	1 μF,50V,Electrolytic
CD8,9	VCKYMN1HB151K	J	AA	150 pF,50V
CD10	VCTYMN1CY103K	J	AA	0.01 μF,16V
CD11	VCCCMN1HH150J	J	AA	15 pF (CH),50V
CD12	VCCCMN1HH180J	J	AA	18 pF (CH),50V
CD13	VCKYMN1HB102K	J	AA	0.001 μF,50V
CD14	VCKYBT1HB151K	J	AA	150 pF,50V
CD15	VCTYBT1EF223Z	J	AA	0.022 μF,25V

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
CD16	VCEAZA0JW227M	J	AC	220 μF,6.3V,Electrolytic
CD17	VCTYBT1EF223Z	J	AA	0.022 μF,25V
CD18~20	VCKYBT1HB102K	J	AA	0.001 μF,50V
CP1~4	VCEAEA1HW105M	J	AB	1 μF,50V,Electrolytic
CP11,12	VCEAEA1HW105M	J	AB	1 μF,50V,Electrolytic
CP13,14	VCQYKA1HM223J	J	AB	0.022 μF,50V,Mylar
CP15,16	VCFYHA1HA154J	J	AC	0.15 μF,50V,Thin Film (For MD-M1)
CP15,16	VCFYHA1HA184J	J	AC	0.18 μF,50V,Thin Film (For MD-M3)
CP17,18	VCFYHA1HA124J	J	AB	0.12 μF,50V,Thin Film (For MD-M1)
CP17,18	VCFYHA1HA154J	J	AC	0.15 μF,50V,Thin Film (For MD-M3)
CP19,20	VCEAEA1VW106M	J	AB	10 μF,35V,Electrolytic
CP21	VCTYBT1EF223Z	J	AA	0.022 μF,25V
CP22	VCEAZA1AW107M	J	AB	100 μF,10V,Electrolytic
CP23	VCTYBT1EF223Z	J	AA	0.022 μF,25V
CP24	VCEAZA1AW107M	J	AB	100 μF,10V,Electrolytic
CP25,26	VCEAEA1VW106M	J	AB	10 μF,35V,Electrolytic
CP27	VCEAEA1HW105M	J	AB	1 μF,50V,Electrolytic
CP29,30	VCTYBT1EF223Z	J	AA	0.022 μF,25V
CP31,32	VCEAEA1VW106M	J	AB	10 μF,35V,Electrolytic
CP35	VCTYBT1EF223Z	J	AA	0.022 μF,25V
CP36	VCEAEA1CW476M	J	AB	47 μF,16V,Electrolytic
CP37	VCEAEA1HW475M	J	AB	4.7 μF,50V,Electrolytic
CP41,42	VCKYBT1HB102K	J	AA	0.001 μF,50V
CP81,82	VCEAEA1VW106M	J	AB	10 μF,35V,Electrolytic
CP83,84	VCTYBT1EF223Z	J	AA	0.022 μF,25V
CP85,86	VCEAEA1HW225M	J	AB	2.2 μF,50V,Electrolytic
CP87,88	VCKYBT1HB151K	J	AA	150 pF,50V
CP89,90	VCKYBT1HB101K	J	AA	100 pF,50V
CP91,92	VCEAEA1HW225M	J	AB	2.2 μF,50V,Electrolytic
CP93,94	VCKYBT1HB331K	J	AA	330 pF,50V
CP95,96	VCEAEA1HW225M	J	AB	2.2 μF,50V,Electrolytic
CR10	VCKYBT1HB102K	J	AA	0.001 μF,50V
CR11,12	VCKYMN1HB331K	J	AA	330 pF,50V
CR55,56	VCQYKA1HM103J	J	AB	0.1 μF,50V,Mylar
CV13,14	VCKYBT1HB151K	J	AA	150 pF,50V
CV15,16	VCQYKA1HM333K	J	AB	0.033 μF,50V,Mylar
CV17,18	VCEAEA1VW106M	J	AB	10 μF,35V,Electrolytic
CV23,24	VCEAEA1VW106M	J	AB	10 μF,35V,Electrolytic
CV91,92	VCKYBT1HB101K	J	AA	100 pF,50V
CX11,12	VCEAEA1VW106M	J	AB	10 μF,35V,Electrolytic
CX13,14	VCKYBT1HB102K	J	AA	0.001 μF,50V
CX16	VCEAEA1VW106M	J	AB	10 μF,35V,Electrolytic
CX17,18	VCCSPA1HL561J	J	AA	560 pF,50V
CX19,20	VCEAEA1HW105M	J	AB	1 μF,50V,Electrolytic
CX21	VCKYBT1HB102K	J	AA	0.001 μF,50V
CX22~24	VCEAZA1HW107M	J	AC	100 μF,50V,Electrolytic
CX25,26	VCFYHA1HA104J	J	AB	0.1 μF,50V,Thin Film
CX28	VCEAZA1HW107M	J	AC	100 μF,50V,Electrolytic
CX30	VCEAZW1HW228M	J	AH	2200 μF,50V,Electrolytic
CX31,32	VCEAZA1HW476M	J	AB	47 μF,50V,Electrolytic
CX33,34	RC-EZ1567AFZZ	J	AE	2200 F,25V,Electrolytic
CX35~38	VCFYHA1HA104J	J	AB	0.1 μF,50V,Thin Film
CX51	VCEAEA1VW106M	J	AB	10 μF,35V,Electrolytic
CX53	VCEAZA1EW476M	J	AB	47 μF,25V,Electrolytic
CX55,56	VCKYBT1HB102K	J	AA	0.001 μF,50V
R1540	VCCCCY1HH220J	J	AA	22 pF (CH),50V (MD-M3 Only)

RESISTORS

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
R3	VRD-MN2BD000C	J	AA	0 ohm,Jumper,ø1.4×3.5mm,Ivory
R4	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R5	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R6	VRD-ST2CD393J	J	AA	39 kohms,1/6W
R7	VRD-ST2CD273J	J	AA	27 kohms,1/6W
R8	VRD-ST2CD682J	J	AA	6.8 kohms,1/6W
R10	VRD-ST2CD331J	J	AA	330 ohms,1/6W
R11	VRD-ST2CD273J	J	AA	27 kohms,1/6W
R12,13	VRD-ST2CD123J	J	AA	12 kohms,1/6W
R14	VRD-ST2CD681J	J	AA	680 ohms,1/6W
R15	VRD-ST2CD122J	J	AA	1.2 kohms,1/6W
R16,17	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R18	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R19	VRD-ST2CD105J	J	AA	1 Mohm,1/6W
R20	VRD-ST2CD100J	J	AA	10 ohm,1/6W
R35,36	VRD-ST2CD221J	J	AA	220 ohms,1/6W
R38	VRD-ST2CD153J	J	AA	15 kohms,1/6W
R39	VRD-ST2CD822J	J	AA	8.2 kohms,1/6W
	VRD-ST2CD153J	J	AA	15 kohms,1/6W

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION	NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
R40	VRD-ST2CD102J	J	AA	1 kohm, 1/6W	R991	RR-HZ0001AWZZ	J	AE	4.7 Mohms, 1/2W
R42	VRD-ST2CD124J	J	AA	120 kohms, 1/6W	R1100	VRS-TQ2BB270J	J	AA	27 ohms, 1/8W
R43	VRD-ST2CD224J	J	AA	220 kohms, 1/6W	R1101	VRS-CY1JB1R0J	J	AA	1 ohm, 1/16W
R44	VRD-ST2CD102J	J	AA	1 kohm, 1/6W	R1102	VRS-CY1JB103J	J	AA	10 kohm, 1/16W
R50	VRD-ST2CD331J	J	AA	330 ohms, 1/6W	R1103	VRS-CY1JB394J	J	AA	390 kohms, 1/16W
R51~56	VRD-ST2CD683J	J	AA	68 kohms, 1/6W	R1105	VRS-CY1JB122J	J	AA	1.2 kohms, 1/16W
R58	VRD-ST2EE3R3J	J	AA	3.3 ohms, 1/4W	R1106	VRS-CY1JB563J	J	AA	56 kohms, 1/16W
R59	VRD-ST2CD104J	J	AA	100 kohm, 1/6W	R1107	VRS-CY1JB561J	J	AA	560 ohms, 1/16W
R60	VRD-ST2CD101J	J	AA	100 ohm, 1/6W	R1108~1112	VRS-CY1JB223J	J	AA	22 kohms, 1/16W
R63	VRD-ST2CD151J	J	AA	150 ohms, 1/6W	R1200,1201	VRS-CY1JB124J	J	AA	120 kohms, 1/16W
R64	VRD-ST2EE101J	J	AA	100 ohm, 1/4W	R1202,1203	VRS-CY1JB154D	J	AA	150 kohms, 1/16W
R65	VRD-ST2CD471J	J	AA	470 ohms, 1/6W	R1204,1205	VRS-CY1JB623J	J	AA	62 kohms, 1/16W
R71~78	VRD-ST2CD102J	J	AA	1 kohm, 1/6W	R1206,1207	VRS-CY1JB333J	J	AA	33 kohms, 1/16W
R79	VRD-ST2CD155J	J	AA	1.5 Mohms, 1/6W	R1208	VRS-CY1JB221J	J	AA	220 ohms, 1/16W
R80	VRD-ST2CD105J	J	AA	1 Mohm, 1/6W	R1209	VRS-CY1JB101J	J	AA	100 ohm, 1/16W
R81~83	VRD-ST2CD121J	J	AA	120 ohms, 1/6W (MD-M3 Only)	R1210,1211	VRS-CY1JB221J	J	AA	220 ohms, 1/16W
R84~86	VRD-ST2CD222J	J	AA	2.2 kohms, 1/6W (MD-M3 Only)	R1212	VRS-CY1JB470J	J	AA	47 ohms, 1/16W
R87	VRD-ST2CD121J	J	AA	120 ohms, 1/6W	R1214	VRS-CY1JB103J	J	AA	10 kohm, 1/16W
R88	VRD-ST2CD682J	J	AA	6.8 kohms, 1/6W	R1215	VRS-CY1JB105J	J	AA	1 Mohm, 1/16W
R90,91	VRD-ST2CD472J	J	AA	4.7 kohms, 1/6W	R1217	VRS-CY1JB151J	J	AA	150 ohms, 1/16W
R92	VRD-ST2CD473J	J	AA	47 kohms, 1/6W	R1219	VRS-CY1JB103J	J	AA	10 kohm, 1/16W (MD-M1 Only)
R93	VRD-ST2CD103J	J	AA	10 kohm, 1/6W	R1221	VRS-CY1JB103J	J	AA	10 kohm, 1/16W
R94~98	VRD-ST2CD473J	J	AA	47 kohms, 1/6W	R1222	VRS-CY1JB103J	J	AA	10 kohm, 1/16W (MD-M1 Only)
R319	VRD-MN2BD104J	J	AA	100 kohm, 1/8W	R1223	VRS-CY1JB101J	J	AA	100 ohm, 1/16W
R323	VRD-MN2BD683J	J	AA	68 kohms, 1/8W	R1301	VRS-CY1JB100J	J	AA	10 ohm, 1/16W
R324	VRD-MN2BD104J	J	AA	100 kohm, 1/8W	R1304	VRS-TV2AB681J	J	AA	680 ohms, 1/10W
R336	VRD-ST2CD472J	J	AA	4.7 kohms, 1/6W	R1400	VRS-CY1JB272J	J	AA	2.7 kohms, 1/16W
R344	VRD-MN2BD471J	J	AA	470 ohms, 1/8W	R1401	VRS-CY1JB152J	J	AA	1.5 kohms, 1/16W
R345	VRD-MN2BD472J	J	AA	4.7 kohms, 1/8W	R1402,1403	VRS-CY1JB102J	J	AA	1 kohm, 1/16W
R350	VRD-ST2CD272J	J	AA	2.7 kohms, 1/6W	R1404	VRS-CY1JB102J	J	AA	1 kohm, 1/16W
R351	VRD-MN2BD562J	J	AA	5.6 kohms, 1/8W	R1405	VRS-CY1JB332J	J	AA	3.3 kohms, 1/16W
R352	VRD-MN2BD102J	J	AA	1 kohm, 1/8W	R1406	VRS-CY1JB104J	J	AA	100 kohm, 1/16W
R353	VRD-MN2BD271J	J	AA	270 ohms, 1/8W	R1407	VRS-CY1JB104J	J	AA	100 kohm, 1/16W
R354	VRD-ST2CD472J	J	AA	4.7 kohms, 1/6W	R1408	VRS-CY1JB332J	J	AA	3.3 kohms, 1/16W
R355	VRD-MN2BD332J	J	AA	3.3 kohms, 1/8W	R1409	VRS-CY1JB102J	J	AA	1 kohm, 1/16W
R356	VRD-MN2BD102J	J	AA	1 kohm, 1/8W	R1410	VRS-CY1JB332J	J	AA	3.3 kohms, 1/16W
R357	VRD-ST2CD474J	J	AA	470 kohms, 1/6W	R1411	VRS-CY1JB102J	J	AA	1 kohm, 1/16W
R358	VRD-MN2BD822J	J	AA	8.2 kohms, 1/8W	R1412	VRS-CY1JB103J	J	AA	10 kohm, 1/16W
R359	VRD-ST2CD182J	J	AA	1.8 kohms, 1/6W	R1413	VRS-CY1JB102J	J	AA	1 kohm, 1/16W
R360	VRD-MN2BD472J	J	AA	4.7 kohms, 1/8W	R1414	VRS-CY1JB102J	J	AA	1 kohm, 1/16W
R361~364	VRD-ST2CD222J	J	AA	2.2 kohms, 1/6W	R1415,1416	VRS-CY1JB103J	J	AA	10 kohm, 1/16W
R369	VRD-MN2BD820J	J	AA	82 ohms, 1/8W	R1417	VRS-CY1JB103J	J	AA	10 kohm, 1/16W
R370	VRD-ST2CD102J	J	AA	1 kohm, 1/6W	R1419~1424	VRS-CY1JB103J	J	AA	10 kohm, 1/16W
R371	VRD-MN2BD472J	J	AA	4.7 kohms, 1/8W	R1425	VRS-CY1JB104J	J	AA	100 kohm, 1/16W
R372~374	VRD-MN2BD102J	J	AA	1 kohm, 1/8W	R1426~1428	VRS-CY1JB102J	J	AA	1 kohm, 1/16W
R376	VRD-MN2BD102J	J	AA	1 kohm, 1/8W	R1429	VRS-CY1JB473J	J	AA	47 kohms, 1/16W
R377	VRD-ST2CD473J	J	AA	47 kohms, 1/6W	R1430	VRS-CY1JB103J	J	AA	10 kohm, 1/16W
R378	VRD-MN2BD823J	J	AA	82 kohms, 1/8W	R1444	VRS-CY1JB101J	J	AA	100 ohm, 1/16W
R379	VRD-MN2BD222J	J	AA	2.2 kohms, 1/8W	R1510,1511	VRS-CY1JB822J	J	AA	8.2 kohms, 1/16W
R380	VRD-MN2BD152J	J	AA	1.5 kohms, 1/8W	R1512,1513	VRS-CY1JB470J	J	AA	47 ohms, 1/16W
R381	VRD-MN2BD103J	J	AA	10 kohm, 1/8W	R1514	VRS-CY1JB102J	J	AA	1 kohm, 1/16W
R382	VRD-ST2EE151J	J	AA	150 ohms, 1/4W	R1515,1516	VRS-CY1JB182J	J	AA	1.8 kohms, 1/16W
R383~385	VRD-MN2BD562J	J	AA	5.6 kohms, 1/8W	R1517,1518	VRS-CY1JB103J	J	AA	10 kohm, 1/16W
R387	VRD-MN2BD223J	J	AA	22 kohms, 1/8W	R1519	VRS-CY1JB121J	J	AA	120 ohms, 1/16W
R388	VRD-ST2CD392J	J	AA	3.9 kohms, 1/6W	R1520	VRS-CY1JB103J	J	AA	10 kohm, 1/16W
R391,392	VRD-ST2EE391J	J	AA	390 ohms, 1/4W	R1521	VRS-CY1JB682J	J	AA	6.8 kohms, 1/16W
R393	VRD-ST2CD102J	J	AA	1 kohm, 1/6W	R1522	VRS-CY1JB221J	J	AA	220 ohms, 1/16W
R395	VRD-ST2CD473J	J	AA	47 kohms, 1/6W	R1525	VRS-CY1JB332J	J	AA	3.3 kohms, 1/16W
R803	VRD-ST2EE681J	J	AA	680 ohms, 1/4W	R1526	VRS-CY1JB102J	J	AA	1 kohm, 1/16W
R805	VRD-ST2EE2R2J	J	AA	2.2 ohms, 1/4W	R1527~1529	VRS-CY1JB822J	J	AA	8.2 kohms, 1/16W
R807	VRD-ST2EE561J	J	AA	560 ohms, 1/4W	R1530,1531	VRS-CY1JB221J	J	AA	1.8 kohms, 1/16W
R810	VRD-ST2CD151J	J	AA	150 ohms, 1/6W	R1532	VRS-CY1JB102J	J	AA	1 kohm, 1/16W
R811	VRD-ST2EE331J	J	AA	330 ohms, 1/4W	R1533,1534	VRS-CY1JB560J	J	AA	56 ohms, 1/16W (MD-M3 Only)
R813	VRD-ST2EE561J	J	AA	560 ohms, 1/4W	R1545	VRS-CY1JB560J	J	AA	56 ohms, 1/16W (MD-M3 Only)
R816	VRD-ST2CD151J	J	AA	150 ohms, 1/6W	R1600,1601	VRS-CY1JB682D	J	AA	6.8 kohms, 1/16W
R817	VRD-ST2EE561J	J	AA	560 ohms, 1/4W	R1605,1606	VRS-CY1JB103J	J	AA	10 kohm, 1/16W
R819	VRD-ST2EE561J	J	AA	560 ohms, 1/4W	R1612	VRS-CY1JB204D	J	AA	200 kohms, 1/16W
R820	VRD-ST2CD331J	J	AA	330 ohms, 1/6W	R1614	VRS-CY1JB104D	J	AA	100 kohm, 1/16W
R822	VRD-ST2EE331J	J	AA	330 ohms, 1/4W	R1616,1617	VRS-CY1JB682J	J	AA	6.8 kohms, 1/16W
R851	VRD-ST2EE2R2J	J	AA	2.2 ohms, 1/4W	R1618	VRS-CY1JB153J	J	AA	15 kohms, 1/16W
△ R852	VRG-ST2EH5R6J	J	AA	5.6 ohms, 1/4W, Fusible	R1620	VRS-CY1JB153J	J	AA	15 kohms, 1/16W
R907	VRD-MN2BD472J	J	AA	4.7 kohms, 1/8W	R1700	VRS-CY1JB393J	J	AA	39 kohms, 1/16W
R909	VRD-ST2CD104J	J	AA	100 kohm, 1/6W	R1701	VRS-CY1JB303J	J	AA	30 kohms, 1/16W
R911,912	VRD-ST2CD151J	J	AA	150 ohms, 1/6W	R1702	VRS-CY1JB102D	J	AA	1 kohm, 1/16W
R914	VRD-ST2CD472J	J	AA	4.7 kohms, 1/6W	R1703	VRS-CY1JB332D	J	AA	3.3 kohms, 1/16W
R921	VRD-ST2CD472J	J	AA	4.7 kohms, 1/6W	R1704	VRS-CY1JB821J	J	AA	820 ohms, 1/16W
R922	VRD-ST2CD473J	J	AA	47 kohms, 1/6W	R1705	VRS-CY1JB393J	J	AA	39 kohms, 1/16W
R951,952	VRD-RT2HD1R8J	J	AA	1.8 ohms, 1/2W	R1706	VRS-CY1JB105J	J	AA	1 Mohm, 1/16W
R953,954	VRD-ST2EE221J	J	AA	220 ohms, 1/4W	R1707	VRS-CY1JB102J	J	AA	1 kohm, 1/16W
R955	VRD-ST2CD123J	J	AA	12 kohms, 1/6W	R1708	VRS-CY1JB273J	J	AA	27 kohms, 1/16W
R956	VRD-ST2CD101J	J	AA	100 ohm, 1/6W	R1709	VRS-CY1JB393J	J	AA	39 kohms, 1/16W
R957	VRD-ST2CD472J	J	AA	4.7 kohms, 1/6W	R1710	VRS-CY1JB684J	J	AA	680 kohms, 1/16W

MD-M3/M1

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
R1711,1712	VRS-TV2AB120J	J	AA	12 ohms,1/10W
R1713	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R1801	VRS-CY1JB271J	J	AA	270 ohms,1/16W
R1802	VRS-CY1JB224D	J	AA	220 kohms,1/16W
R1803	VRS-CY1JB104D	J	AA	100 kohm,1/16W
R1804	VRS-CY1JB391J	J	AA	390 ohms,1/16W
R1805	VRS-CY1JB271J	J	AA	270 ohms,1/16W
R1806	VRS-TV2AB1R0J	J	AA	1 ohm,1/10W
R1807	VRS-CY1JB273J	J	AA	27 kohms,1/16W
R1808	VRS-CY1JB182J	J	AA	1.8 kohms,1/16W
R1809	VRS-TQ2BB1R0J	J	AA	1 ohm,1/8W
R1811	VRS-TQ2BB1R0J	J	AA	1 ohm,1/8W
R1901	VRS-TV2AB471J	J	AA	470 ohms,1/10W
R1902	VRS-TV2AB182J	J	AA	1.8 kohms,1/10W
R1903,1904	VRS-TV2AB821J	J	AA	820 ohms,1/10W
RD1	VRD-MN2BD102J	J	AA	1 kohm,1/8W
RD2~4	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RD5	VRD-MN2BD102J	J	AA	1 kohm,1/8W
RD6	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RD7	VRD-MN2BD102J	J	AA	1 kohm,1/8W
RD8,9	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RD10	VRD-MN2BD102J	J	AA	1 kohm,1/8W
RD11	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RD12	VRD-MN2BD102J	J	AA	1 kohm,1/8W
RD13,14	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RD15,16	VRD-MN2BD102J	J	AA	1 kohm,1/8W
RD17,18	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RD19~32	VRD-MN2BD102J	J	AA	1 kohm,1/8W
RD33	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RD35,36	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RD37,38	VRD-MN2BD102J	J	AA	1 kohm,1/8W
RD40~43	VRD-MN2BD102J	J	AA	1 kohm,1/8W
RD45,46	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RD47	VRD-ST2CD683J	J	AA	68 kohms,1/6W
RD48	VRD-ST2CD822J	J	AA	8.2 kohms,1/6W
RD49	VRD-ST2CD104J	J	AA	100 kohm,1/6W
RD50	VRD-ST2EE390J	J	AA	39 ohms,1/4W
RD51,52	VRD-ST2CD103J	J	AA	10 kohm,1/6W
RD53	VRD-ST2CD122J	J	AA	1.2 kohms,1/6W
RD54,55	VRD-MN2BD102J	J	AA	1 kohm,1/8W
RD56	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RD58	VRD-MN2BD473J	J	AA	47 kohms,1/8W
RD59	VRD-MN2BD104J	J	AA	100 kohm,1/8W
RD60,61	VRD-ST2CD473J	J	AA	47 kohms,1/6W
RD62~64	VRD-ST2CD104J	J	AA	100 kohm,1/6W
RF01	VRD-MN2BD102J	J	AA	1 kohm,1/8W
RF02	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
RF03	VRD-MN2BD182J	J	AA	1.8 kohms,1/8W
RF04	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
RF05	VRD-MN2BD392J	J	AA	3.9 kohms,1/8W
RF06	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
RF07	VRD-MN2BD123J	J	AA	12 kohms,1/8W
RF09	VRD-MN2BD102J	J	AA	1 kohm,1/8W
RF10	VRD-MN2BD122J	J	AA	1.2 kohms,1/8W
RF11	VRD-MN2BD182J	J	AA	1.8 kohms,1/8W
RF12	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
RF13	VRD-MN2BD392J	J	AA	3.9 kohms,1/8W
RF14	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
RF17	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RF18	VRD-ST2CD122J	J	AA	1.2 kohms,1/6W
RF19	VRD-ST2CD182J	J	AA	1.8 kohms,1/6W
RF20	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
RF21	VRD-ST2CD392J	J	AA	3.9 kohms,1/6W
RF22	VRD-ST2CD562J	J	AA	5.6 kohms,1/6W
RF23	VRD-ST2CD123J	J	AA	12 kohms,1/6W
RF25~27	VRD-ST2CD822J	J	AA	8.2 kohms,1/6W
RF51,52	VRD-MN2BD104J	J	AA	100 kohm,1/8W
RF71	VRD-ST2CD104J	J	AA	100 kohm,1/6W
RF72~77	VRD-MN2BD104J	J	AA	100 kohm,1/8W
RP1,2	VRD-ST2CD392J	J	AA	3.9 kohms,1/6W
RP3,4	VRD-ST2CD152J	J	AA	1.5 kohms,1/6W
RP11~16	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RP19,20	VRD-ST2CD272J	J	AA	2.7 kohms,1/6W
RP21,22	VRD-ST2CD103J	J	AA	10 kohm,1/6W
RP23,24	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
RP25	VRD-ST2CD272J	J	AA	2.7 kohms,1/6W
RP26	VRD-ST2CD103J	J	AA	10 kohm,1/6W
RP27,28	VRD-ST2EE681J	J	AA	680 ohms,1/4W
RP29,30	VRD-ST2CD332J	J	AA	3.3 kohms,1/6W
RP31,32	VRD-ST2CD183J	J	AA	18 kohms,1/6W
RP41,42	VRD-ST2CD332J	J	AA	3.3 kohms,1/6W
RP43,44	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
RP49,50	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RP51	VRD-ST2EE221J	J	AA	220 ohms,1/4W
RP55	VRD-ST2CD562J	J	AA	5.6 kohms,1/6W
RP57	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RP58~60	VRD-ST2CD473J	J	AA	47 kohms,1/6W
RP61,62	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RP81,82	VRD-ST2EE221J	J	AA	220 ohms,1/4W
RP83,84	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RP85,86	VRD-ST2CD272J	J	AA	2.7 kohms,1/6W
RP87,88	VRD-ST2CD183J	J	AA	18 kohms,1/6W
RP89~92	VRD-ST2CD104J	J	AA	100 kohm,1/6W
RR11,12	VRD-MN2BD123J	J	AA	12 kohms,1/8W
RR13,14	VRD-MN2BD471J	J	AA	470 ohms,1/8W
RR15,16	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
RR20	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
RR23	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
RR51,52	VRD-MN2BD102J	J	AA	1 kohm,1/8W
RV11,12	VRD-RT2HD101J	J	AA	100 ohm,1/2W
RV15,16	VRD-ST2CD104J	J	AA	100 kohm,1/6W
RV17,18	VRD-ST2CD103J	J	AA	10 kohm,1/6W
RV19,20	VRD-ST2CD271J	J	AA	270 ohms,1/6W
RV21,22	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RV23,24	VRD-ST2CD104J	J	AA	100 kohm,1/6W
RV25,26	VRD-ST2EE221J	J	AA	220 ohms,1/4W
RV91,92	VRD-RT2HD101J	J	AA	100 ohm,1/2W
RX11,12	VRD-ST2CD822J	J	AA	8.2 kohms,1/6W
RX13,14	VRD-ST2CD562J	J	AA	5.6 kohms,1/6W
RX15	VRD-ST2CD473J	J	AA	47 kohms,1/6W
RX16	VRD-ST2CD224J	J	AA	220 kohms,1/6W
RX17	VRD-ST2CD103J	J	AA	10 kohm,1/6W
RX19,20	VRD-ST2CD333J	J	AA	33 kohms,1/6W
RX21,22	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RX23,24	VRD-ST2CD271J	J	AA	270 ohms,1/6W
RX25	VRD-RT2HD682J	J	AN	6.8 kohms,1/2W
RX27,28	VRD-RT2HD4R7J	J	AA	4.7 ohms,1/2W
RX29,30	VRD-RT2HD271J	J	AA	270 ohms,1/2W
RX35,36	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
RX37,38	VRD-ST2CD562J	J	AA	5.6 kohms,1/6W
RX51,52	VRD-ST2CD392J	J	AA	3.9 kohms,1/6W
RX53	VRD-ST2CD273J	J	AA	27 kohms,1/6W
RX54	VRD-ST2CD104J	J	AA	100 kohm,1/6W
RX56	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
RX57	VRD-ST2CD392J	J	AA	3.9 kohms,1/6W
RX58	VRD-ST2EE470J	J	AA	47 ohms,1/4W
RX59	VRD-ST2CD223J	J	AA	22 kohms,1/6W
RX60	VRD-ST2EE271J	J	AA	270 ohms,1/4W
RX61	VRD-ST2CD102J	J	AA	1 kohm,1/6W

OTHER CIRCUITRY PARTS

BI1/CNS1	QCNWN0975AWZZ	J	AH	Connector Ass'y,8-8Pin
BI2/CNS2	QCNWN0976AWZZ	J	AF	Connector Ass'y,7-7Pin
BI3/CNS3	QCNWN1438AWZZ	J	AG	Connector Ass'y,6-6Pin
BI301	QCNWN1445AWZZ	J		Read Wire Ass'y with Lug
△ BI990/CNS990	QCNWN1442AWZZ	J	AF	Connector Ass'y,2-2Pin
BI991/CNS991	QCNWN1443AWZZ	J		Connector Ass'y,7-7Pin
BID01	QCNWN0308AWZZ	J	AC	Read Wire Ass'y with Lug
BIP01	QCNWN1444AWZZ	J	AC	Read Wire Ass'y
CFWP12	QCNCWZG13AWZZ	J	AD	Socket,13Pin
CFWR11	QCNCWZG17AWZZ	J	AD	Socket,13Pin
CFWR12	QCNCWZG13AWZZ	J	AD	Socket,17Pin
CN1101	QCNCWY028AFZZ	J	AE	Plug,28Pin
CN1300	QCNCM891BAFZZ	J	AC	Plug,2Pin
CN1401	QCNCWXC05AFZZ	J	AC	Plug,5Pin
CN1501	QCNCWXC28AFZZ	J	AG	Socket
CN1502	QCNCM891DAFZZ	J	AD	Plug,4Pin (MD-M3 Only)
CN1602	QCNCM890BAF02	J	AD	Plug,2Pin
CN1603	QCNCM890BAFZZ	J	AC	Plug,2Pin
CN1604	QCNCM890BAF06	J	AD	Plug,2Pin
CN1901	QCNCW037EAWZZ	J	AH	Socket,5Pin
CNP3	92LCONE6P53254	J	AC	Plug,6Pin
CNP11	QCNCWZG06AWZZ	J	AC	Socket,6Pin
CNP12	QCNCWZG28AWZZ	J	AE	Socket,28Pin
CNP13	92LCONE4P53253	J	AB	Plug,4Pin (MD-M3 Only)
CNP14	QCNCWYW28AWZZ	J	AK	Socket,28Pin
△ CNP990	QCNCM042BAWZZ	J	AC	Plug,2Pin
CNP991	QCNCM698GAFZZ	J	AB	Plug,7Pin
CNPD01	QCNCWZG17AWZZ	J	AD	Socket,17Pin
CNPD02	QCNCWZG28AWZZ	J	AE	Socket,28Pin
CNPD03	QCNCWZG06AWZZ	J	AC	Socket,6Pin
CNPX51	92LCONE2P53253	J	AB	Plug,2Pin

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION	NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
CNS13	QCNWN6616AFZZ	J	AK	Connector Ass'y, 4-4Pin (MD-M3 Only)	7- 2	PSHEP0024AWZZ	J	AC	Sheet, Head
CNS15	QCNWN1440AWZZ	J		Read Wire Ass'y,	8	MLEVP0030AWM1	J	AF	Lever, Roller Arm Sub Ass'y
CNSX51	QCNWN1123AWZZ	J	AC	Connector Ass'y, 2Pin	9	MLEVP0075AWZZ	J	AD	Lever, Clamp
CNW2002	QCNWN6763AFM1	J	AN	Flat Cable, 28Pin	10	MLEVP0076AWZZ	J	AC	Lever, Catch
CORE1	RCORF0015AWZZ	J	AB	Core	11	MLEVP0077AWZZ	J	AC	Lever, Slider
CW1901	QCNWN1042AWZZ	J	AD	Flat Cable, 5Pin	12	MSPRD0103AWFJ	J	AB	Spring, Roller Holder
CW1903	QCNWN1044AWZZ	J	AG	Connector Ass'y, 2Pin	13	MSPRD0116AWFJ	J	AB	Spring, Spindle
△ F995	QFS-D402BSJN1	J	AB	Fuse, 4A/125V	14	MSPRD1318AFFJ	J	AB	Spring, Shift Arm
△ F996, 997	QFS-D322BSJN1	J		Fuse, 3.15A/125V	15	MSPRD1319AFFJ	J	AB	Spring, Holder Arm
△ F998	QFS-D801BSJN1	J	AG	Fuse, 800mA/125V	16	MSPRD0104AWFJ	J	AB	Spring, Catch
△ F999	QFS-D162BSJN1	J	AE	Fuse, 1.6A/125V	17	MSPRP0015AWFJ	J	AB	Spring, Plate (A)
FE301	RTUNS0013AWZZ	J	AT	FM Front End	18	MSPRP0017AWFJ	J	AB	Spring, Drive Shaft
FLD01	VVKBJ695GNK-1	J	BB	FL Display	19	MSPRT0018AWFJ	J	AB	Spring, Lack
FWD01	QCNWN1431AWZZ	J	AE	Flat Cable, 17Pin	20	MSPRT1566AFFJ	J	AB	Spring, Roller Arm
FWD02	QCNWN1432AWZZ	J	AG	Flat Cable, 28Pin	21	NGERH0066AWZZ	J	AC	Gear, Loading (B)
FWD03	QCNWN1433AWZZ	J	AD	Flat Cable, 6Pin	22	NGERH0067AWZZ	J	AC	Gear, Drive
FWP12	QCNWN1434AWZZ	J	AE	Flat Cable, 13Pin	23	NGERH0068AWZZ	J	AC	Gear, Loading (A)
FWV11	QCNWN0816AWZZ	J	AD	Flat Wire, 5Pin	24	NGERH0084AWZZ	J	AC	Gear, Roller
FWX51	QCNWN0423AWZZ	J	AD	Flat Wire, 3Pin	25	NGERR0002AWZZ	J	AC	Gear, Rack
JR11	QSOCJ0218AWZZ	J	AF	Jack, AUX Input	26	NROLP0010AWZZ	J	AC	Holder, Roller
JV91	QJAKH0001AWZZ	J	AH	Jack, Headphones (For MD-M3)	27	NROLR0001AWZZ	J	AC	Transfer Roller
JV91	92LJACKH1759A	J	AF	Jack, Headphones (For MD-M1)	28	NSFTD0005AWFT	J	AF	Shaft, Drive
KV91	QLUGP0002AWZZ	J	AB	Lug, Pin	29	NSFTM0017AWFW	J	AC	Shaft, Loading Gear
M1	92LMTR3025CASY	J	BE	Spindle Motor with Chassis	30	NSFTM0277AFFW	J	AC	Shaft, Pickup Slide
M2	92LMTR1854BASY	J	AP	Sled Motor with Gear	31	NSFTM0278AFFW	J	AC	Shaft, Pickup Guide
M901	RMOTV0023AWZZ	J	AU	MD Spindle Motor Ass'y	32	RCILH0108AFZZ	J	AP	Magnetic Head
M902	RMOTV0013AWM2	J	AR	MD Sled Motor Ass'y	△ 33	RCTR8190AFZZ	J	BL	Pickup Unit
M903	RMOTV0014AWM1	J	AQ	MD Loading Motor Ass'y	601	LX-BZ0030AWZZ	J	AB	Screw, ø1.7×9.5mm
MOX51	92LMTR1810A	J	AK	Motor, Air Cooling Fan	602	LX-BZ0031AWZZ	J	AB	Screw, ø1.7×7.5mm
△ RL990	RRLYD0001SJZZ	J	AQ	Relay	603	LX-BZ0032AWZZ	J	AB	Screw, ø1.7×2mm
RXD1	VHLN64H380A-1	J	AK	Remote Sensor, N64H380A	604	LX-BZ0804AFFJ	J	AA	Screw, ø1.4×2.2mm
SO301	QTANC0301AWZZ	J	AH	Terminal, FM Antenna	605	LX-BZ0846AFZZ	J	AB	Screw, ø1.7×3mm
△ SO990	QSOCA0209AWZZ	J	AH	Socket, AC Input	606	LX-BZ0851AFZZ	J	AB	Screw, ø1.7×2.5mm
SW1	QSW-P0920AFZZ	J	AC	Switch, Push Type [CD Lid]	607	LX-BZ0883AFZZ	J	AB	Screw, ø1.7×5mm
SW2	QSW-F9001AW01	J	AD	Switch, Leaf Type [Pickup In]	608	LX-WZ9268AFZZ	J	AA	Washer, ø1.5×ø3.2×0.5mm
SW1952	QSW-P0006AWZZ	J	AG	Switch, Push Type [Direct]	609	LX-WZ9269AFZZ	J	AA	Washer, ø1.2×ø3×0.25mm
SW1953	QSW-M0157AFZZ	J	AD	Switch, Push Type [Lead In]	610	LX-BZ0036AWZZ	J	AC	Screw, ø1.7×2.1mm
SW1954	QSW-M0002AWZZ	J	AD	Switch, Push Type [Play]	CW1901	QCNWN1042AWZZ	J	AD	Flat Cable, 5Pin
SW1955	QSW-M0002AWZZ	J	AD	Switch, Push Type [Rec]	CW1903	QCNWN1044AWZZ	J	AG	Connector Ass'y, 2Pin
SW1956	QSW-M0156AFZZ	J	AC	Switch, Push Type [Loading]	M901	RMOTV0023AWZZ	J	AU	MD Spindle Motor Ass'y
SWD01	92LSWICHT1663T	J	AC	Switch, Push Type [POWER]	M902	RMOTV0013AWM2	J	AR	MD Sled Motor Ass'y
SWD02	92LSWICHT1663T	J	AC	Switch, Push Type [DISPLAY]	M903	RMOTV0014AWM1	J	AQ	MD Loading Motor Ass'y
SWD08	92LSWICHT1663T	J	AC	Switch, Push Type [MD EJECT]	SW1952	QSW-P0006AWZZ	J	AG	Switch, Push Type [Direct]
SWD10	92LSWICHT1663T	J	AC	Switch, Push Type [SURROUND]	SW1953	QSW-M0157AFZZ	J	AD	Switch, Push Type [Lead In]
SWD11	92LSWICHT1663T	J	AC	Switch, Push Type [PRESET EQUALIZER]	SW1954	QSW-M0002AWZZ	J	AD	Switch, Push Type [Play]
SWD12	92LSWICHT1663T	J	AC	Switch, Push Type [X-BASS]	SW1955	QSW-M0002AWZZ	J	AD	Switch, Push Type [Rec]
SWD13	92LSWICHT1663T	J	AC	Switch, Push Type [AUX]	SW1956	QSW-M0156AFZZ	J	AC	Switch, Push Type [Loading]
SWD14	92LSWICHT1663T	J	AC	Switch, Push Type [TUNER]					
SWD15	92LSWICHT1663T	J	AC	Switch, Push Type [CD]					
SWD16	92LSWICHT1663T	J	AC	Switch, Push Type [MD]					
SWD19	92LSWICHT1663T	J	AC	Switch, Push Type [FF]					
SWD20	92LSWICHT1663T	J	AC	Switch, Push Type [REV]					
SWD21	92LSWICHT1663T	J	AC	Switch, Push Type [PLAY]					
SWD22	92LSWICHT1663T	J	AC	Switch, Push Type [STOP]					
SWD23	92LSWICHT1663T	J	AC	Switch, Push Type [HIGH] (MD-M3 Only)					
SWD24	92LSWICHT1663T	J	AC	Switch, Push Type [NORMAL] (For MD-M3)					
SWD24	92LSWICHT1663T	J	AC	Switch, Push Type [CD MD EDIT] (For MD-M1)					
SWD25	92LSWICHT1663T	J	AC	Switch, Push Type [REC]					
SWD26	92LSWICHT1663T	J	AC	Switch, Push Type [MEMORY]					
SWD28	QSW-Z0005AWZZ	J	AM	Jog Switch [VOLUME]					
SWR11	QSW-S0028AWZZ	J	AG	Switch, Slide Type [DEMO]					
TMX11	QTANA0401AWZZ	J	AG	Terminal, Speaker					
TP910	QCNCW679CAFZZ	J	AC	Plug, 3Pin					
WTV91	92LCONE5P52287	J	AC	Socket, 5Pin					

MD MECHANISM PARTS

1	LANGF0033AWZZ	J	AD	Bracket, MD Guide (A)
2	LANGF0034AWZZ	J	AD	Bracket, MD Guide (B)
3	LCHSM0080AWM1	J	AE	Chassis, Drive
4	LHLDX3004AW01	J	AK	Holder, Cartridge Ass'y
5	MLEVP0036AWM1	J	AF	Lever, Cam Plate Ass'y
6	MLEVP0025AWM1	J	AF	Arm Ass'y, H/A Shift
6- 1	MLEVP0025AWZZ	J	AD	Lever, H/A Shift
6- 2	PSHEP0026AWZZ	J	AC	Sheet, H/A Shift Arm
7	MLEVF0037AWM2	J	AG	Arm Ass'y, Holder
7- 1	—	—	—	Lever, Holder Arm Sub Ass'y (Not Replacement Item)

CD MECHANISM PARTS

301	MLEVP0080AWZZ	J	AC	Rail, Guide
302	NGERH0011AWZZ	J	AC	Gear, Middle
303	NGERH0012AWZZ	J	AC	Gear, Drive
304	NSFTM0002AWFW	J	AE	Shaft, Guide
305	PCOVP1001AWSA	J	AE	Cover, CD Mechanism
306	PCUSG0427AFSC	J	AC	Cushion, Keep off Vibration
△ 307	RCTR8164AFZZ	J	BF	Pickup Unit Ass'y
307- 1	—	—	—	Pickup Unit (Not Replacement Item)
307- 2	MSPRC0961AFZZ	J	AA	Spring, Rack
307- 3	NGERR0043AFZZ	J	AC	Gear, Rack
701	LX-WZ1070AFZZ	J	AA	Washer, ø1.5×ø3.8×0.25mm
702	XBBSD20P03000	J	AA	Screw, ø2×3mm
703	XBSSD26P06000	J	AA	Screw, ø2.6×6mm
704	XHBSD20P05000	J	AA	Screw, ø2×5mm
M1	92LMTR3025CASY	J	BE	Spindle Motor with Chassis
M2	92LMTR1854BASY	J	AP	Sled Motor with Gear
SW2	QSW-F9001AW01	J	AD	Switch, Push Type [PICKUP IN]

CABINET PARTS

301	GCAB-1053AWSA	J	AL	Cabinet, Top (For MD-M3)
301	GCAB-1053AWSB	J	AL	Cabinet, Top (For MD-M1)
302	GCABB1186AWSA	J	AL	Panel, Rear
303	GCOVH1014AWSA	J	AC	Cover, Remote Sensor
304	GDORF0064AWSB	J	AF	Door, MD (For MD-M3)
304	GDORF0064AWSE	J	AF	Door, MD (For MD-M1)
305	92LCOV3025AS1	J	AQ	Lid Ass'y, CD (For MD-M3)
305	92LCOV3031AS1	J	AQ	Lid Ass'y, CD (For MD-M1)
305- 1	—	—	—	Lid, CD (Not Replacement Item)
305- 2	HDECQ0454AWSA	J	AH	Plate, CD Window (For MD-M3)
305- 2	HDECQ0454AWSB	J	AH	Plate, CD Window (For MD-M1)

MD-M3/M1

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
306	GITAS0058AWSA	J	AP	Side Panel,Left (For MD-M3)
306	GITAS0058AWSB	J	AP	Side Panel,Left (For MD-M1)
307	GITAS0059AWSA	J	AP	Side Panel,Right (For MD-M3)
307	GITAS0059AWSB	J	AP	Side Panel,Right (For MD-M1)
308	HDECQ0449AWSA	J	AE	Plate,FL Filter
309	HDECQ0473AWSA	J	AM	Plate,Front Window
310	HDECQ0452AWSA	J	AK	Plate,Volume Nob (For MD-M3)
310	HDECQ0452AWSB	J	AH	Plate,Volume Nob (For MD-M1)
312	HDECQ0471AWSA	J	AC	Indicator Plate,STAND-BY
313	HDECQ0472AWSA	J	AC	Decoration Plate,EDIT
314	HPNLC1222AWSA	J	AU	Panel,Front (For MD-M3)
314	HPNLC1223AWSA	J	AU	Panel,Front (For MD-M1)
315	HPNLC1207AWSA	J	AL	Panel,MD Window (For MD-M3)
315	HPNLC1207AWSB	J	AL	Panel,MD Window (For MD-M1)
316	JKNBK0045AWSA	J	AD	Knob,AUX Input Level
317	JKNBK0067AWSA	J	AF	Knob,Volume (For MD-M3)
317	JKNBK0067AWSB	J	AF	Knob,Volume (For MD-M1)
318	JKNBZ0592AWSA	J	AE	Button [POWER] (For MD-M3)
318	JKNBZ0592AWSB	J	AE	Button [POWER] (For MD-M1)
319	JKNBZ0593AWSA	J	AE	Button [Function] (For MD-M3)
319	JKNBZ0593AWSB	J	AE	Button [Function] (For MD-M1)
321	JKNBZ0596AWSA	J	AE	Button [SURROUND/EQ/X-BASS] (For MD-M3)
321	JKNBZ0596AWSB	J	AE	Button [SURROUND/EQ/X-BASS] (For MD-M1)
322	JKNBZ0597AWSA	J	AF	Button [CD MD EDIT] (For MD-M3)
322	JKNBZ0620AWSB	J	AF	Button [CD MD EDIT] (For MD-M1)
323	JKNBZ0598AWSA	J	AG	Button [Operation] (For MD-M3)
323	JKNBZ0598AWSB	J	AD	Button [Operation] (For MD-M1)
324	JKNBZ0599AWSA	J	AG	Button [CD Eject] (For MD-M3)
324	JKNBZ0599AWSB	J	AG	Button [CD Eject] (For MD-M1)
325	LANGK0092AWFW1J	J	AM	MD Base Frame
326	LANGK0107AWFW1J	J	AG	Bracket,Fan (A)
327	LANGK0108AWFW1J	J	AF	Bracket,Fan (B)
328	LANGK0159AWFW	J	AE	Bracket,MD Holder Support
329	LANGK0160AWFW	J	AE	Bracket,Terminal
330	LANGK0176AWFW	J	AC	Bracket,CD Eject Lever
331	LCHSM0084AWFW	J	AL	Chassis
332	LHLDZ3008AWSA	J	AG	Holder,MD Unit
333	LHLDZ1222AWZZ	J	AE	Holder,FL Display
334	MLEVP0092AWSA	J	AC	Lever,CD Eject
335	MLEVP0093AWSA	J	AC	Lever,Switch
336	MLIFP0006AWZZ	J	AE	Damper,CD Lid
337	MSPRD0098AWFJ	J	AD	Spring,CD Lid
338	MSPRD0108AWFJ	J	AC	Spring,Fan Motor
339	MSPRT0022AWZZ	J	AB	Spring,MD Lid
340	NBRGC0003AWZZ	J	AC	Bearing Metal
341	NFANP0001AWZZ	J	AD	Rotary Fan
342	PCOV3021AWFW1J	J	AL	MD Shield Case,Top
343	PCOV3022AWFW1J	J	AK	MD Shield Case,Bottom
344	PCOVW1011AWZZ	J	AF	Cover,POWER PWB [Serial No.905xxxxx~907xxxxx]
344	PCOVW1012AWZZ	J	AE	Cover,POWER PWB [Serial No.908xxxxx~]
345	PCUSG0008AWZZ	J	AB	Cushion,Keep off Vibration,Fan Motor
346	PCUSG0022AWZZ	J	AB	Cushion,Leg
347	PCUSG0672AFSA	J	AD	Cushion,Keep off Vibration (A)
348	PCUSG0672AFSB	J	AD	Cushion,Keep off Vibration (B)
349	PMAGF0001AWZZ	J	AF	Magnet
350	PRDAR0132AWFW	J	AR	Heat Sink
351	PSPAS0003AWZZ	J	AC	Spacer,Fan Support
352	QFSHD0001AWZZ	J	AB	Holder,Fuse
353	QLUGP0001AWZZ	J	AC	Lug (LUG901)
355	TSPC-0561AWZZ	J	AC	Label,Specifications (For MD-M3)
355	TSPC-0564AWZZ	J	AC	Label,Specifications (For MD-M1)
358	92LCSPPR1431C	J	AA	Spring,Ring
359	92LCUSN1651A	J	AC	Cushion,Stabilizer
360	92LHOLD1524A1	J	AD	Weight Holder
361	92LN-BAND1318A	J	AA	Nylon Band,80mm
362	92LRDAT-1468B	J	AE	Sub Radiator
363	TCAUS0037AWZZ	J	AB	UL Caution Label (Only Pre-pro)
364	TLABS0231AWZZ1	J	AB	UL Caution Label (From 1st.)
601	LX-BZ0852AFFD	J	AC	Screw,ø1.7×8.9mm
602	LX-BZ0880AFFZ	J	AC	Screw,ø2×2.2mm

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
603	LX-EZ0005AWFD	J	AA	Screw,Special
604	LX-EZ0025AWFN	J	AC	Screw,ø3×10mm
605	LX-HZ0082AFZZ	J	AA	Screw,ø4×8mm
606	LX-JZ0010AFFD	J	AA	Screw,ø3×10mm
607	LX-TZ0019AFZZ	J	AB	Screw,Special
608	XBPSD20P04K00	J	AA	Screw,ø2×4mm with Washer
609	XBPSD30P10KS0	J	AA	Screw,ø3×10mm
610	XEBSD26P10000	J	AA	Screw,ø2.6×10mm
611	XEBSD30P12000	J	AA	Screw,ø3×12mm
612	XJBSD30P10000	J	AA	Screw,ø3×10mm
613	XJBSD30P14000	J	AA	Screw,ø3×14mm
614	XJBSF30P10000	J	AA	Screw,ø3×10mm,Black
615	XJBSF30P10000	J	AA	Screw,ø3×10mm,Black (For MD-M1)
615	XJBSN30P10000	J	AA	Screw,ø3×10mm,Nickel (For MD-M3)
616	XSPSN17P03K00	J	AB	Screw,ø1.7×3mm
617	XWHS32-10130	J	AA	Washer,ø3.2×ø13×1.0mm
CNW2002	QCNWN6763AFM1	J	AN	MD Flat Cable,28Pin
FWD01	QCNWN1431AWZZ	J	AE	Flat Cable,17Pin
FWD02	QCNWN1432AWZZ	J	AG	Flat Cable,28Pin
FWD03	QCNWN1433AWZZ	J	AD	Flat Cable,6Pin
FWP12	QCNWN1434AWZZ	J	AE	Flat Cable,13Pin

SPEAKER BOX PARTS [CP-M3]

901	92L10003PM3H10	J	BP	Speaker Box Ass'y
902	92L20100PM3H10	J	AN	Net Frame Ass'y
903	92L20500PM3H00	J	AG	Port Tube
904	92L21600PM3H10	J	AK	Panel,Tweeter Ring
905	92L21610PM3H10	J	AL	Panel,Woofer Ring
906	HDECQ0466AWSA	J		Tweeter Ring
907	92L3141CPM3H10	J	AH	Speaker Cord Ass'y
908	92L332LY104B50	J	AK	Terminal
909	411-B840100P1	J	AC	Screw,ø4×10mm
910	411-N74015AB1	J	AD	Screw,ø4×15mm
911	92L419F7PM3H00	J	AE	Net Pin
912	92L436T3248000	J		Double Side Tape
913	92L44210112000	J	AD	Cushion,Tweeter Ring
914	92L44210112200	J		Cushion,Tweeter
915	92L60000CPM300	J		Label,Specification
SP1,2	VSP0012WBF44A	J	BB	Speaker,Woofer
SP3,4	VSP0020TBA44A	J	AX	Speaker,Tweeter

SPEAKER BOX PARTS [CP-M1]

901	92L051-0077	J	AW	Speaker Box Ass'y
902	92L121-0175	J	AS	Net Frame Ass'y
903	92L291-0086	J	AG	Speaker Cord
904	92L351-0340	J		Label,Specification
905	92L372-0049	J	AB	Screw,ø4×12mm
SP1,2	VSP0010PBX74A	J	AY	Speaker,Full-range

ACCESSORIES

△	QACCD0025AWZZ	J	AN	AC Power Supply Cord
	QANTL0009AWZZ	J	AH	AM Loop Antenna
	TINSE0258AWZZ	J	AG	Operation Manual (For MD-M3)
	TINSE0259AWZZ	J	AG	Operation Manual (For MD-M1)
	TINSZ0437AWZZ	J	AB	Quick Guide (For MD-M3)
	TINSZ0439AWZZ	J	AT	Quick Guide (For MD-M1)
	92LBAG1460C1	J	AB	Polyethylene Bag,Operation Manual
	92LBAG1658B	J	AA	Polyethylene Bag,AC Power Cord
	92LF-ANT1746A	J	AD	FM Antenna
	RRMCG0190AWSA	J	AS	Remote Control
	GFTAB1024AWSA	J		Lid,Remote Control

P.W.B. ASSEMBLY (Not Replacement Item)

PWB-A	92LPWB3026MANS	J	—	Main (For MD-M3)
PWB-A	92LPWB3032MANS	J	—	Main (For MD-M1)
PWB-B1/B2	92LPWB3026DPLS	J	—	Display/Jack (For MD-M3)
PWB-B1/2	92LPWB3032DPLS	J	—	Display/Jack (For MD-M1)
PWB-C1/C2	92LPWB3026TUNS	J	—	Power/Tuner/Power (For MD-M3)
PWB-C1/2	92LPWB3032TUNS	J	—	Power/Tuner/Power (For MD-M1)
PWB-D	92LPWB2983MDSS	J	—	MD Main
PWB-E	QPWBF0400AWZZ	J	AC	MD Mechanism Switch (PWB Only)
PWB-F	QPWBF0027AWZZ	J	AD	CD Motor (PWB Only)

NO.	PARTS CODE	★ PRICE RANK	DESCRIPTION	NO.	PARTS CODE	★ PRICE RANK	DESCRIPTION
OTHER SERVICE PARTS							
	88GMMD-213A	J	Pre Adjustment Disc Test MD [TEAC]				
	QCNWK0059AFZZ	J AF	Extension Cable (2Pin)				
	QCNWK0107AFZZ	J AH	Extension Cable (6Pin)				
	QCNWK0108AFZZ	J AL	Extension Flat Cable (28Pin)				
	QCNWK0109AFZZ	J AH	Extension Flat Cable (5Pin)				
	RRCDT0101AFZZ	J CB	Test Disc,Low Reflection				
	RRCDT0103AFZZ	J BK	Head Adjusting Transparend Disc				
	RUNTK0457AFZZ	J BE	Extension PWB				
	UDSKA0004AFZZ	J AZ	CD Pickup Lens Cleaner Disc				
	UDSKM0001AFZZ	J AZ	Recording Mini Disc				

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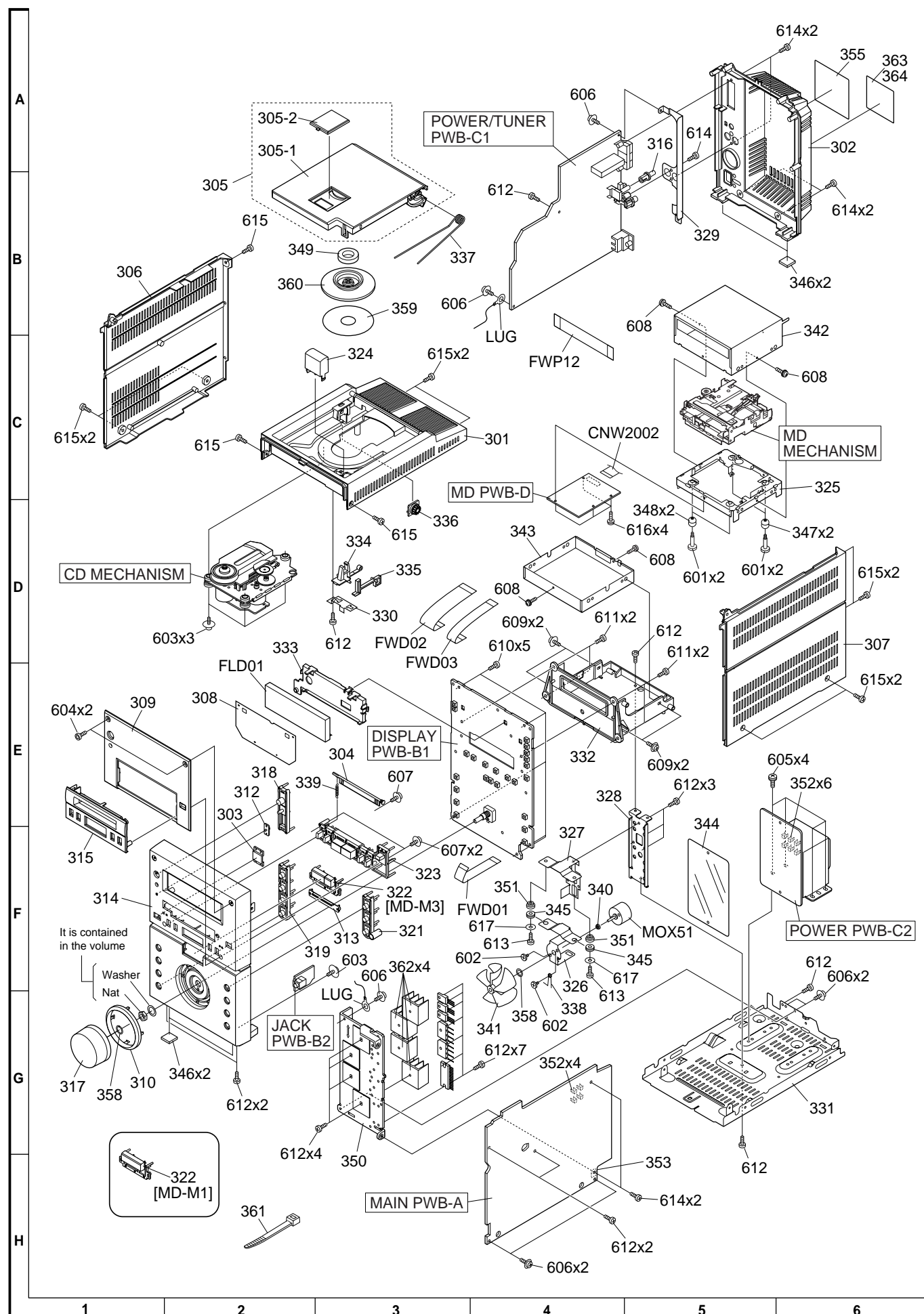
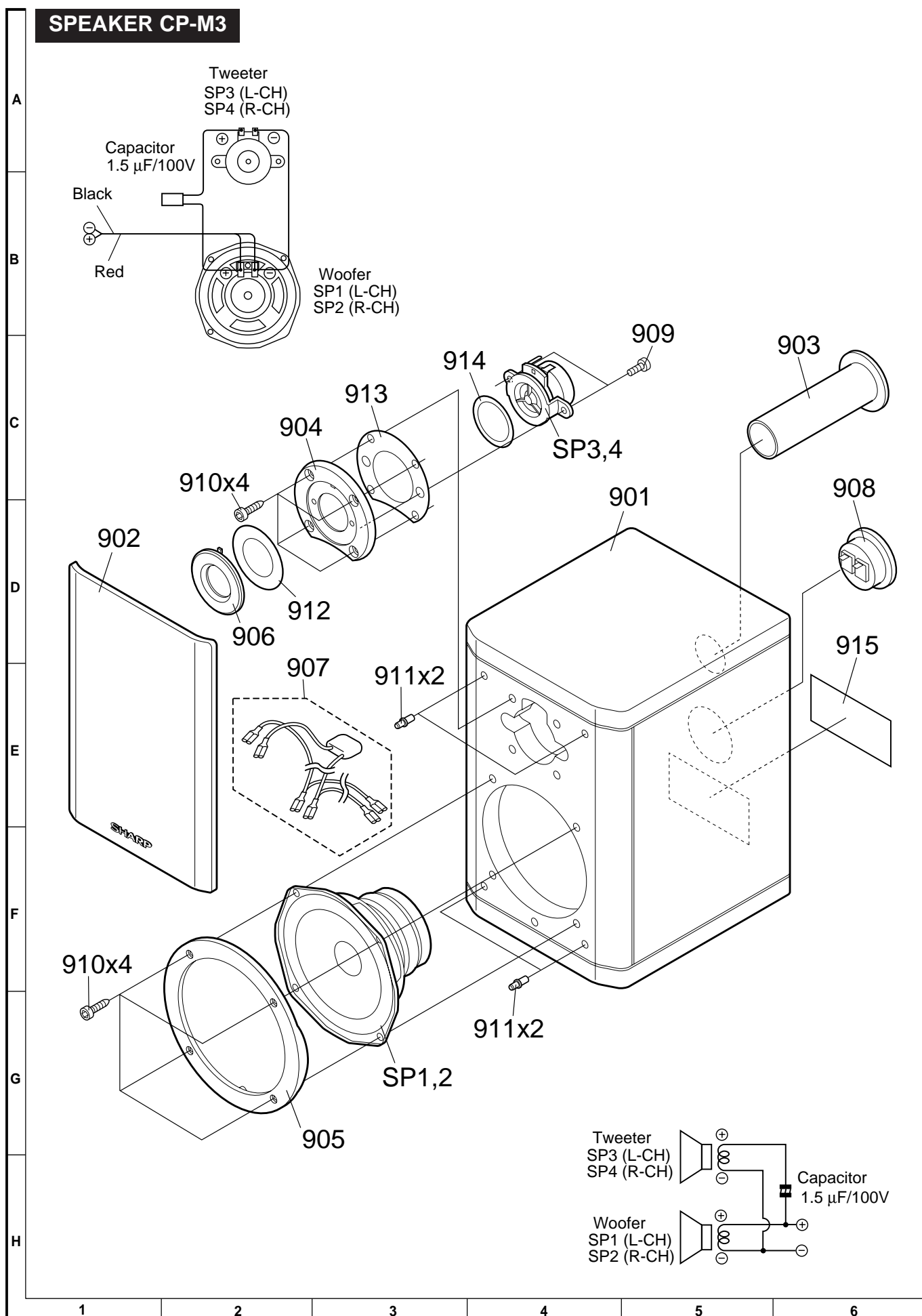


Figure 11 CABINET EXPLODED VIEW

SPEAKER CP-M3**Figure 12 SPEAKER EXPLODED VIEW**

SPEAKER CP-M1

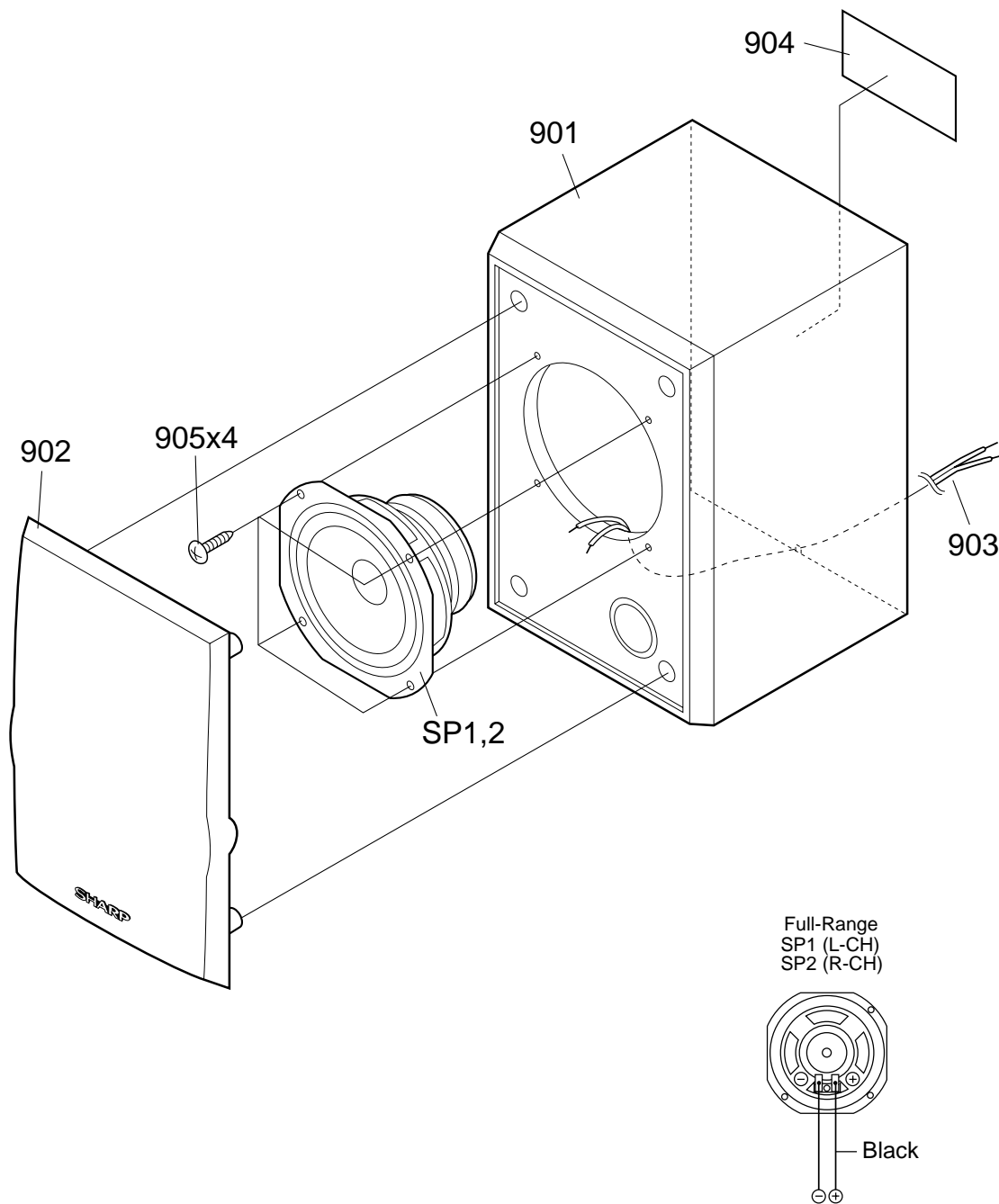
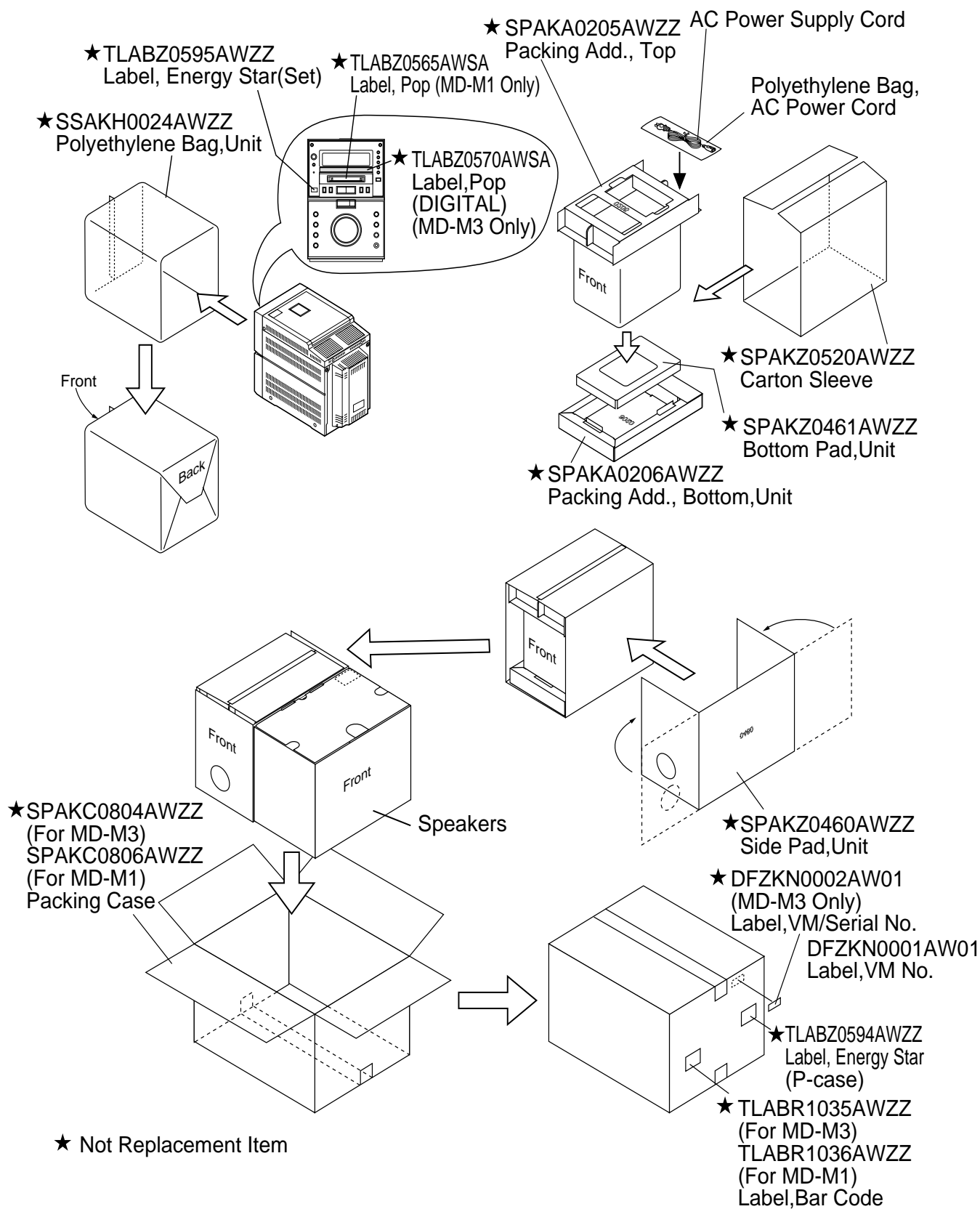
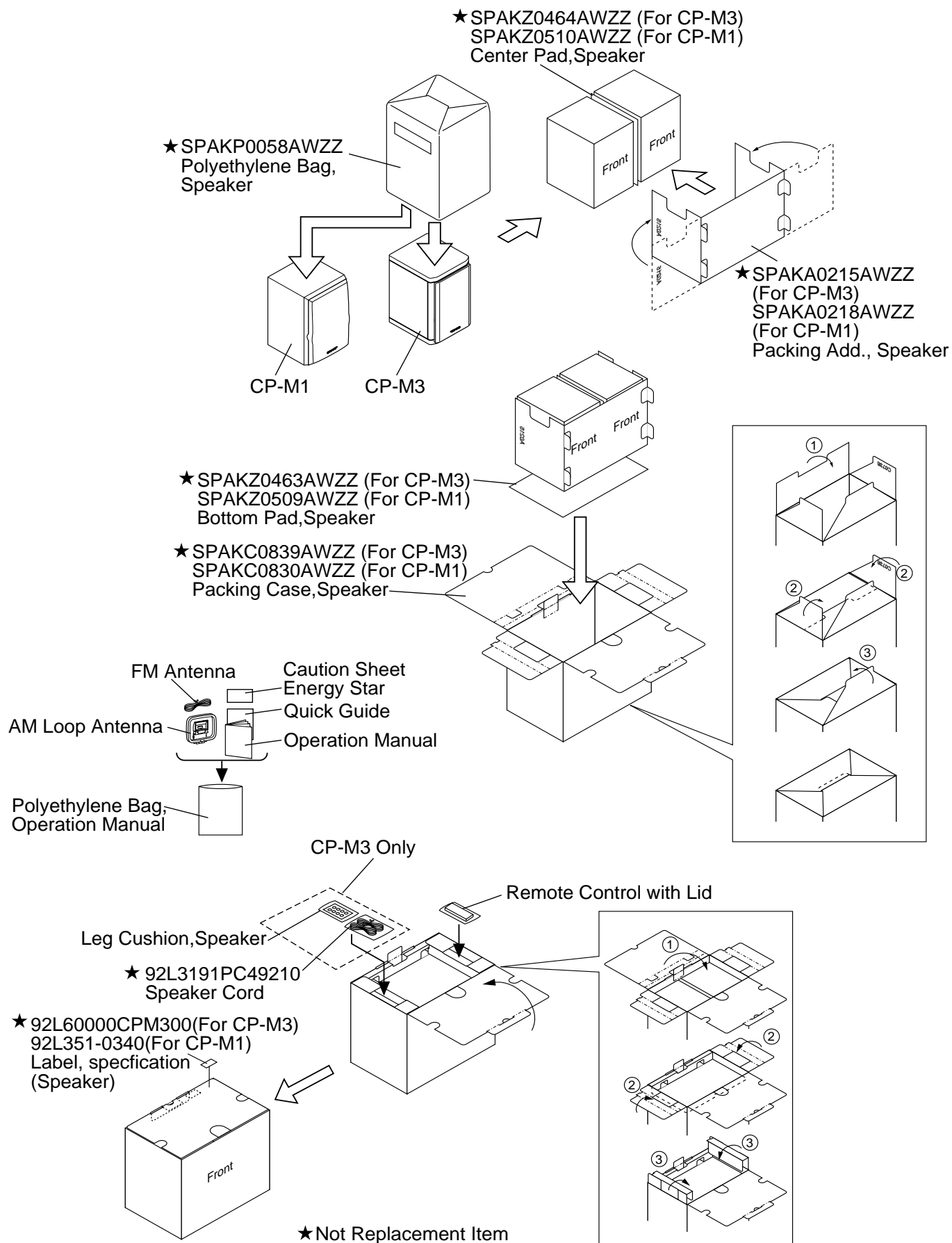


Figure 13 SPEAKER EXPLODED VIEW

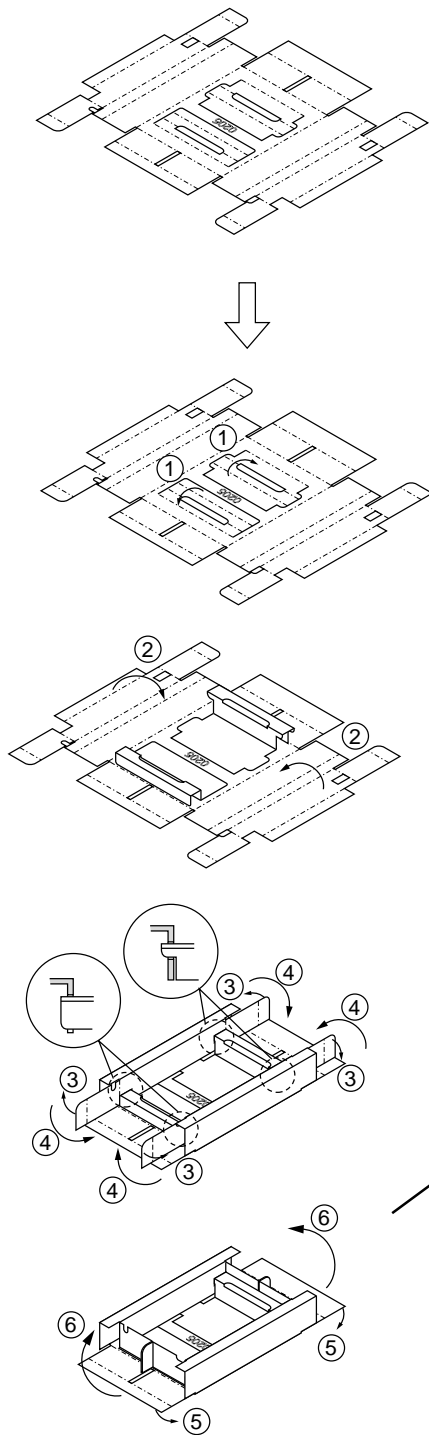
PACKING METHOD (FOR U.S.A. ONLY)

Setting position of switches and knobs	
AUX INPUT LEVEL	MAX
DEMO	ON

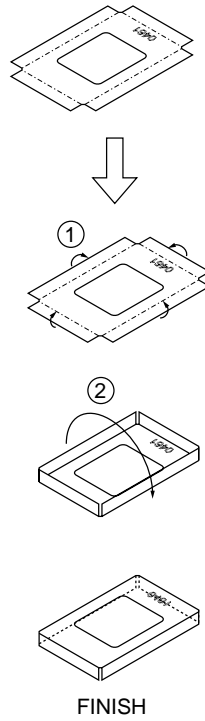




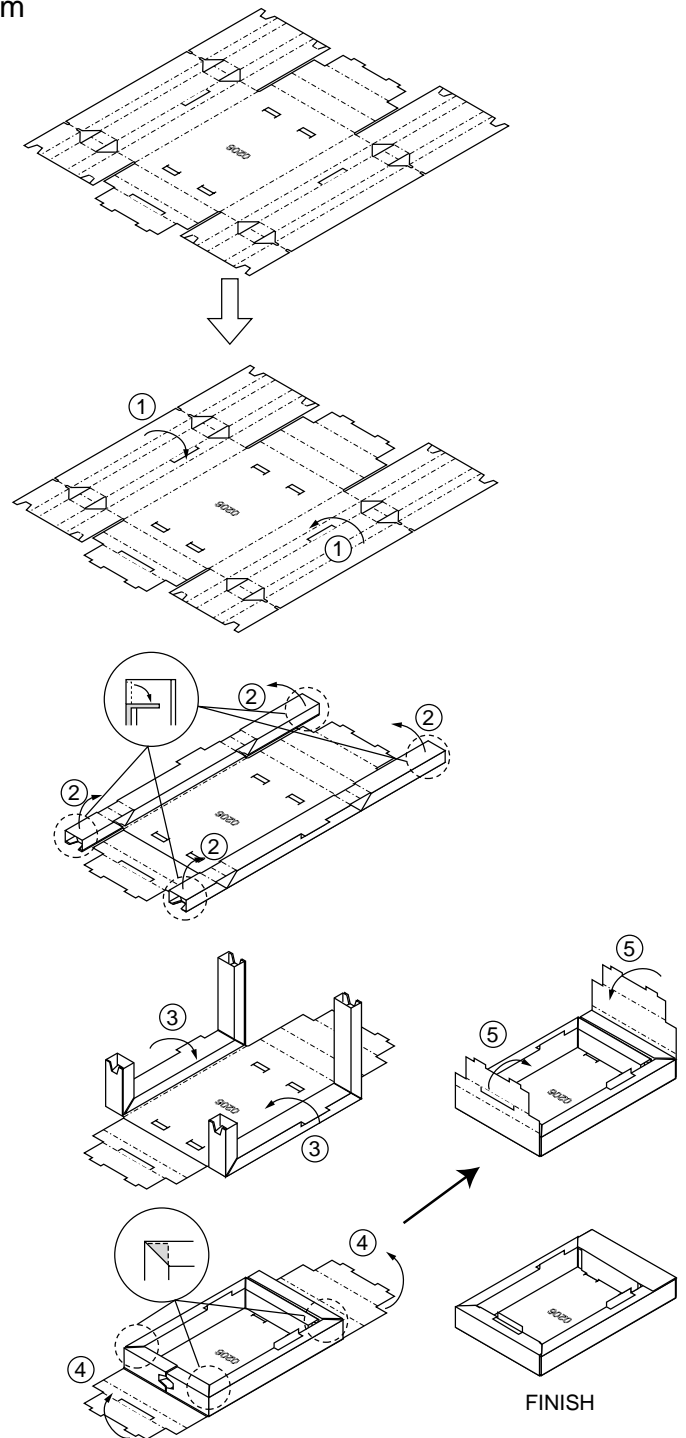
Packing Add.,Top



Packing Pad.,Bottom



Packing Add.,Bottom



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